Project Category Livestock  ProjectType NAEMS: Dairy Emissions  Project Name National Air Emissions Monitoring (NAEMS) Project: Air Emissions from California Dairies  Project Description Accurately assess emissions from livestock operations and compile a database for estimation of emission rates, promote a national consensus for emissions-estimation methods/procedures from livestock operations. Includes monitoring of VOCs and GHG emissions at a commercial dairy using open-path Fourier transform infrared (OP-FTIR) analyzer  Report Location  PI 1	Livestock  ProjectType  NAEMS: Dairy Emissions  Project Name  National Air Emissions Monitoring (NAEMS) Project: Air Emissions from California Dairies  Project Description  Accurately assess emissions from livestock operations and compile a database for estimation of emission rates, promote a national consensus for emissions-estimation methods/procedures from livestock operations. Includes monitoring of VOCs and GHG emissions at a commercial dairy using open-path Fourier transform infrared (OP-FTIR) analyzer  Report Location  PI 1	Livestock  ProjectType NAEMS: Dairy Emissions  Project Name National Air Emissions Monitoring (NAEMS) Project: Air Emissions from California Dairies  Project Description Accurately assess emissions from livestock operations and compile a database for estimation of emission rates, promote a national consensus for emissions-estimation methods/procedures from livestock operations.Includes monitoring of VOCs and GHG emissions at a commercial dairy using open-path Fourier transform infrared (OP-FTIR) analyzer  Report Location  PI 1	Livestock    June 2009   Drafting Report	Project ID 1				7/27/2
Livestock ProjectType NAEMS: Dairy Emissions Project Name National Air Emissions Monitoring (NAEMS) Project: Air Emissions from California Dairies Project Description Accurately assess emissions from livestock operations and compile a database for estimation of emission rates, promote a national consensus for emissions-estimation methods/procedures from livestock operations. Includes monitoring of VOCs and GHG emissions at a commercial dairy using open-path Fourier transform infrared (OP-FTIR) analyzer  Report Location  PI 1	Livestock  ProjectType  NAEMS: Dairy Emissions  Project Name  National Air Emissions Monitoring (NAEMS) Project: Air Emissions from California Dairies  Project Description  Accurately assess emissions from livestock operations and compile a database for estimation of emission rates, promote a national consensus for emissions-estimation methods/procedures from livestock operations. Includes monitoring of VOCs and GHG emissions at a commercial dairy using open-path Fourier transform infrared (OP-FTIR) analyzer  Report Location  PI 1	Livestock  ProjectType NAEMS: Dairy Emissions  Project Name National Air Emissions Monitoring (NAEMS) Project: Air Emissions from California Dairies  Project Description Accurately assess emissions from livestock operations and compile a database for estimation of emission rates, promote a national consensus for emissions-estimation methods/procedures from livestock operations.Includes monitoring of VOCs and GHG emissions at a commercial dairy using open-path Fourier transform infrared (OP-FTIR) analyzer  Report Location  PI 1	Livestock    June 2009   Drafting Report	Project Category	Estimate	d Completion Date	Project Status	;
NAEMS: Dairy Emissions	NAEMS: Dairy Emissions  Project Name National Air Emissions Monitoring (NAEMS) Project: Air Emissions from California Dairies  Project Description Accurately assess emissions from livestock operations and compile a database for estimation of emission rates, promote a national consensus for emissions-estimation methods/procedures from livestock operations. Includes monitoring of VOCs and GHG emissions at a commercial dairy using open-path Fourier transform infrared (OP-FTIR) analyzer  Report Location  PI 1	NAEMS: Dairy Emissions  Project Name National Air Emissions Monitoring (NAEMS) Project: Air Emissions from California Dairies  Project Description Accurately assess emissions from livestock operations and compile a database for estimation of emission rates, promote a national consensus for emissions-estimation methods/procedures from livestock operations. Includes monitoring of VOCs and GHG emissions at a commercial dairy using open-path Fourier transform infrared (OP-FTIR) analyzer  Report Location  PI 1	NAEMS: Dairy Emissions  Project Name National Air Emissions Monitoring (NAEMS) Project: Air Emissions from California Dairies  Project Description Accurately assess emissions from livestock operations and compile a database for estimation of emission rates, promote a national consensus for emissions-estimation methods/procedures from livestock operations. Includes monitoring of VOCs and GHG emissions at a commercial dairy using open-path Fourier transform infrared (OP-FTIR) analyzer  Report Location  PI 1			-		
NAEMS: Dairy Emissions	NAEMS: Dairy Emissions  Project Name National Air Emissions Monitoring (NAEMS) Project: Air Emissions from California Dairies  Project Description Accurately assess emissions from livestock operations and compile a database for estimation of emission rates, promote a national consensus for emissions-estimation methods/procedures from livestock operations. Includes monitoring of VOCs and GHG emissions at a commercial dairy using open-path Fourier transform infrared (OP-FTIR) analyzer  Report Location  PI 1	NAEMS: Dairy Emissions  Project Name National Air Emissions Monitoring (NAEMS) Project: Air Emissions from California Dairies  Project Description Accurately assess emissions from livestock operations and compile a database for estimation of emission rates, promote a national consensus for emissions-estimation methods/procedures from livestock operations. Includes monitoring of VOCs and GHG emissions at a commercial dairy using open-path Fourier transform infrared (OP-FTIR) analyzer  Report Location  PI 1	NAEMS: Dairy Emissions  Project Name National Air Emissions Monitoring (NAEMS) Project: Air Emissions from California Dairies  Project Description Accurately assess emissions from livestock operations and compile a database for estimation of emission rates, promote a national consensus for emissions-estimation methods/procedures from livestock operations. Includes monitoring of VOCs and GHG emissions at a commercial dairy using open-path Fourier transform infrared (OP-FTIR) analyzer  Report Location  PI 1	ProjectType				
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Accurately assess emissions from livestock operations and compile a database for estimation of emission rates, promote a national consensus for emissions-estimation methods/procedures from livestock operations. Includes monitoring of VOCs and GHG emissions at a commercial dairy using open-path Fourier transform infrared (OP-FTIR) analyzer  Report Location  PI 1	Accurately assess emissions from livestock operations and compile a database for estimation of emission rates, promote a national consensus for emissions-estimation methods/procedures from livestock operations. Includes monitoring of VOCs and GHG emissions at a commercial dairy using open-path Fourier transform infrared (OP-FTIR) analyzer  Report Location  PI 1	Accurately assess emissions from livestock operations and compile a database for estimation of emission rates, promote a national consensus for emissions-estimation methods/procedures from livestock operations. Includes monitoring of VOCs and GHG emissions at a commercial dairy using open-path Fourier transform infrared (OP-FTIR) analyzer  Report Location  PI 1	Accurately assess emissions from livestock operations and compile a database for estimation of emission rates, promote a national consensus for emissions-estimation methods/procedures from livestock operations. Includes monitoring of VOCs and GHG emissions at a commercial dairy using open-path Fourier transform infrared (OP-FTIR) analyzer  Report Location  PI 1					
rates, promote a national consensus for emissions-estimation methods/procedures from livestock operations. Includes monitoring of VOCs and GHG emissions at a commercial dairy using open-path Fourier transform infrared (OP-FTIR) analyzer  Report Location  PI 1	rates, promote a national consensus for emissions-estimation methods/procedures from livestock operations. Includes monitoring of VOCs and GHG emissions at a commercial dairy using open-path Fourier transform infrared (OP-FTIR) analyzer  Report Location  PI 1	rates, promote a national consensus for emissions-estimation methods/procedures from livestock operations. Includes monitoring of VOCs and GHG emissions at a commercial dairy using open-path Fourier transform infrared (OP-FTIR) analyzer  Report Location  PI 1	rates, promote a national consensus for emissions-estimation methods/procedures from livestock operations. Includes monitoring of VOCs and GHG emissions at a commercial dairy using open-path Fourier transform infrared (OP-FTIR) analyzer  Report Location  PI 1		li casta ale an anatica a		for time - time f	aminaina.
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F. Mitloehner  UC Davis  Ag Air Research Council (AARC) \$250,00  Fund Source 2  Amount 2  PI 3  Affiliation PI 3  Fund Source 3  Amount 3  PI 4  Affiliation PI 4  Fund Source 4  Amount 4  PI 5  Affiliation PI 5  Fund Source 5  Amount 5  Amount 5  Fund Source 5	F. Mitloehner  UC Davis  Ag Air Research Council (AARC)  Fund Source 2  Amount 2  Fund Source 3  Amount 3  Fund Source 4  Amount 4  Fund Source 4  Amount 4  Fund Source 5  Amount 5  Related info 1  Status update as of May 2008	F. Mitloehner  UC Davis  Ag Air Research Council (AARC) \$250,000  Fund Source 2  Amount 2  Fund Source 3  Amount 3  Fund Source 4  Amount 4  Fund Source 4  Amount 4  Fund Source 5  Amount 5  Related info 1  Status update as of May 2008	F. Mitloehner  UC Davis  Ag Air Research Council (AARC) \$250,000  Flund Source 2  Amount 2  Fund Source 3  Amount 3  Fund Source 4  Amount 4  Fund Source 4  Amount 4  Fund Source 5  Amount 5  Related info 1  Status update as of May 2008	Report Location				
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PI 2 Affiliation PI 2 Fund Source 2 Amount 2  PI 3 Affiliation PI 3 Fund Source 3 Amount 3  PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1  Status update as of May 2008	PI 2 Affiliation PI 2 Fund Source 2 Amount 2  PI 3 Affiliation PI 3 Fund Source 3 Amount 3  PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1  Status update as of May 2008	PI 2 Affiliation PI 2 Fund Source 2 Amount 2  PI 3 Affiliation PI 3 Fund Source 3 Amount 3  PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1  Status update as of May 2008	PI 2 Affiliation PI 2 Fund Source 2 Amount 2  PI 3 Affiliation PI 3 Fund Source 3 Amount 3  PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1  Status update as of May 2008	PI 1 Affiliation	on PI 1			Amount 1
PI 3 Affiliation PI 3 Fund Source 3 Amount 3  PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1  Status update as of May 2008	PI 3 Affiliation PI 3 Fund Source 3 Amount 3  PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1  Status update as of May 2008	PI 3 Affiliation PI 3 Fund Source 3 Amount 3  PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1  Status update as of May 2008	PI 3 Affiliation PI 3 Fund Source 3 Amount 3  PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1  Status update as of May 2008	F. Mitloehner UC Dav	vis	Ag Air Research Cou	uncil (AARC)	\$250,000
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PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1  Status update as of May 2008	PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1  Status update as of May 2008	PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1  Status update as of May 2008	PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1  Status update as of May 2008					
PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1  Status update as of May 2008	PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1  Status update as of May 2008	PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1  Status update as of May 2008	PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1  Status update as of May 2008	PL3 Affiliation	on PL3	Fund Source 3		Amount 3
PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1  Status update as of May 2008	PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1  Status update as of May 2008	PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1 Status update as of May 2008	PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1 Status update as of May 2008					
PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1  Status update as of May 2008	PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1  Status update as of May 2008	PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1  Status update as of May 2008	PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1 Status update as of May 2008	DI 4	er DI 4	Frank Correct 4		A
Related info 1 Status update as of May 2008	Related info 1 Status update as of May 2008	Related info 1 Status update as of May 2008	Related info 1 Status update as of May 2008	PI 4 Affiliation	on PI 4	Fund Source 4	/	Amount 4
Related info 1 Status update as of May 2008	Related info 1 Status update as of May 2008	Related info 1 Status update as of May 2008	Related info 1 Status update as of May 2008					
Status update as of May 2008	Status update as of May 2008	Status update as of May 2008	Status update as of May 2008	PI 5 Affiliation	on PI 5	Fund Source 5	,	Amount 5
Status update as of May 2008	Status update as of May 2008	Status update as of May 2008	Status update as of May 2008					
Status update as of May 2008	Status update as of May 2008	Status update as of May 2008	Status update as of May 2008	Palated info 1		•		
Related info 2	Related info 2	Related info 2	Related info 2					

Project ID					7/27/201
Project Category			ted Completion Date	Project Statu	
Livestock		May 20	009	Drafting Rep	οπ
ProjectType					
Dairy Emissions					
Project Name					
Ag Air Research Co	uncil (AARC)				
Project Description					
rates, promote a nat	ional consensus f monitoring of VO	or emissions-e Cs and GHG e	ons and compile a datab estimation methods/prod missions at a commerc	cedures from livestoc	k
Report Location					
PI 1	Affiliation F	7I 1	Fund Source 1		Amount 1
F. Mitloehner	UC Davis		ARB		\$40,000
DI 0	A (C)				
PI 2 Y. Zhao	Affiliation F UC Davis	12	Fund Source 2		Amount 2
1. Znao	OC Davis				
PI 3	Affiliation F	13	Fund Source 3		Amount 3
PI 4	Affiliation F	71 4	Fund Source 4		Amount 4
			, and course :		7
PI 5	Affiliation F	15	Fund Source 5		Amount 5
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Related info 1					
Status update as of	May 2008				
Related info 2					
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Project ID 3					7/27/201
Project Category		Ectimo	ated Completion Date	Project Status	
Livestock		May 20		Drafting Repo	
		1 7			
ProjectType  NAEMS: Dairy Emissi	ione				
INACINIS. Daily Cilliss	ions				
Project Name					
Air Emissions from Ca	alifornia Dairies,	Part II			
Project Description					
	nissions from live	stock operation	ons and compile a datab	pase for estimation of	emission
rates, promote a natio	onal consensus fo	or emissions-e	estimation methods/prod missions at a commerc	cedures from livestocl	k
Fourier transform infra			missions at a commerc	iai dairy using open-p	alli
	<u> </u>				
Report Location					
PI 1	Affiliation P	1	Fund Source 1		Amount 1
F. Mitloehner	UC Davis	•	CDFA		\$70,000
					, ,,,,,,,
PI 2	Affiliation P	2	Fund Source 2		Amount 2
Y. Zhao	UC Davis				
PI 3	Affiliation P	2	Fund Source 3		Amount 3
ris	Amilation F	3	Fulld Source 3		Amount 3
PI 4	Affiliation P	4	Fund Source 4		Amount 4
DI C	A ((')' - (' D)	-			A
PI 5	Affiliation P	5	Fund Source 5		Amount 5
	,				
Related info 1					
Status update as of N	lay 2008				
Dalata d'ata 0					
Related info 2					

Project Category Livestock  ProjectType  NAEMS: Dairy Emiss  Project Name		Estimated Completion Date  May 2009  Project S  Drafting	
Livestock  ProjectType  NAEMS: Dairy Emiss			
ProjectType NAEMS: Dairy Emiss		77 111	
NAEMS: Dairy Emiss	ions		
	ions		
Project Name	iono		
Air Emissions from Ca	alifornia Dairies, Part III		
Project Description			
rates, promote a nation operations. Includes make transform infrage.	onal consensus for emis	perations and compile a database for estimatic sions-estimation methods/procedures from live GHG emissions at a commercial dairy using op r	stock
Report Location			
PI 1	Affiliation PI 1	Fund Source 1	Amount 1
F. Mitloehner	UC Davis	UC Davis, College of Ag and Env'a Sciences	\$40,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
Y. Zhao	UC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
Related info 1		· ·	
Status update as of M	lay 2008		
Related info 2			

Project ID 5					7/27/2010
Project Category		Estima	ted Completion Date	Project Status	
Livestock		July 20		Draft Final Report	
ProjectType					
Dairy Emissions					
Project Name	m Emission Model t	Estimate A	ir Emissions from Califo	rnia Dairios	
Process-based Fair	ii Emission woder u	) Estimate A	ir Emissions from Callio	mia Daines	
Project Description					
Using biological prin farm emission mode	nciples and engineer of for VOC emission	ing studies, o	develop a feed/waste st	ream process-based dairy	
Report Location					
PI 1	Affiliation PI	1	Fund Source 1	Amoun	
R. Zhang	UC Davis		ARB	\$28	4,000
PI 2	Affiliation PI	2	Fund Source 2	Amoun	ıt 2
F. Mitloehner	UC Davis				
	1600 1 51	_			
PI 3 A. Goldstein	Affiliation PI UC Berkeley		Fund Source 3	Amoun	it 3
7. Coldotom	OO Berkeley				
PI 4	Affiliation PI	4	Fund Source 4	Amoun	t 4
PI 5	Affiliation PI	5	Fund Source 5	Amoun	t 5
				71041	-
]					
Related info 1					
	at http://www.arb.ca	gov/ag/caf/R	RuihongZhangDairySym	posiumOct06.pdf	
Related info 2					
Draft report under re	eview as of October	2009			

Project ID		7/27/2010
6		
Project Category	Estimated Completion Date	Project Status
Livestock	January 2007	Completed
ProjectType	, ]	,
Dairy Emissions		
Project Name		
Dairy Air Quality Monitoring of ROG a	and Ammonia in the Central Valley of C	alifornia
Project Description		
Maintain staffing and supplies for field 2006	d and laboratory work to continue the A	RB funded ROG project until
Report Location		
preliminary data available at: ftp://ftp.a	arb.ca.gov/carbis/ag/agadvisory/kraute	r05jan26.pdf

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
C. Krauter	CSU Fresno	CSU Agricultural Research Initiativ	\$208,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
D. Goorahoo	CSU Fresno	ARB	\$104,000
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
B. Goodrich	CSU Fresno	SJVAPCD	\$104,000
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
M. Beene	CSU Fresno		
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

http://www.epa.gov/ttn/chief/conference/ei15/session6/beene.pdf

# Related info 2

http://www.epa.gov/ttn/chief/conference/ei14/session1/goorahoo\_pres.pdf

Project ID			7/27/
7			
Project Category		Estimated Completion Date	Project Status
Livestock		June 2006	Partially complete
ProjectType			
Dairy Emissions			
Project Name			
Evaluating Dairy Am	monia, Methane, and	Hydrogen Sulfide Emissions Usin	ng Tunable Diode Lasers
Project Description			
•	ethods for evaluating	process and time specific emission	on profiles for NH3, CH4, and
		nonia emissions using the USEP.	
		through 2008. [No updates since	
		3 111 [ 11, 11, 11, 11, 11, 11, 11, 11, 1	•
Report Location			
http://www.epa.gov/t	tn/chief/conference/ei	15/session6/beene.pdf	
임 1	Affiliation PI 1	Fund Source 1	Amount 1
D. Goorahoo	CSU Fresno	CSU Agricultural R	Research Initiativ \$98,000
인 2	Affiliation PI 2	Fund Source 2	Amount 2
C. Krauter	CSU Fresno	ARB	
의 3	Affiliation PI 3	Fund Source 3	Amount 3
B. Goodrich	CSU Fresno	Boreal Lasers	
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
			753
ମ 5	Affiliation PI 5	Fund Source 5	Amount 5
13	Allillation P13	r una Source 5	Amount 5

http://www.4cleanair.org/Documents/APCODetermination.pdf

# Related info 2

Abstract on page 9 at this site: http://www.epa.gov/ttn/chief/conference/ei14/final2005.pdf

Project ID 8			7/27/201
0			•
Project Category		Estimated Completion Date Project	Status
Livestock		June 2008 Comple	ted
ProjectType			
Dairy Emissions Mitig	ation		
Project Name			
•	Evaluation and Com	parison of Baseline and Potential Mitigation Pract	ices for
		Valley (Contract No. 04-343)	.000 .0.
Project Description			
Project is designed to	obtain data needed	to better estimate baseline dairy emissions and t	o estimate the
emission reductions a	icnievable with availa	able control technologies.	
Report Location			
		pr/past/04-343.pdf; Abstract -	
http://www.arb.ca.gov	/research/abstracts/0	04-343.htm	
PI 1	Affiliation PI 1	Fund Source 1	Amount 1
C. Krauter	CSU Fresno	ARB	\$2
<b>5</b> 1.5	1600 1 516		
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
D. Goorahoo	CSU Fresno	possible matching funds - CSUS Fresno Agricultural Research Initia	\$250,000
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
B. Goodrich	CSU Fresno		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
M. Beene	CSU Fresno		
DI E	Affiliation PI 5	Fund Course F	Amount 5
PI 5	Allillation PI 5	Fund Source 5	Amount 5
Related info 1			
http://www.epa.gov/ttr	n/chief/conference/ei	15/session6/beene.pdf	
Related info 2			
Continuation of previo	ous work		

Project ID 9		7/27/2
١		
Project Category	Estimated Completion Date	Project Status
Livestock	December 2006	Completed
ProjectType	1	,
Dairy Emissions Mitigation		
Project Name		
Air Emission Mitigation Techniques a	nd Technologies for California Dairies	
Project Description		
Evaluate dairy PM10, 2.5, VOC, and Includes lagoon and corral areas.	ammonia emission mitigation practices	for potential effectiveness.
Report Location		
http://www.arb.ca.gov/ag/caf/FrankMi	tloehnerDairySymposiumOct06.pdf	

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
F. Mitloehner	UC Davis	Merced County via SWRCB and U matching	\$600,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
R. Zhang	UC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
P. Robinson	UC Davis		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
J. Fadel	UC Davis		
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

Project objective described in PowerPoint at: ftp://ftp.arb.ca.gov/carbis/ag/agadvisory/mitloehner05jan26.pdf

# Related info 2

SJVAPCD Aug. 2005 VOC Emission Factors for Dairies, http://www.4cleanair.org/Documents/APCODetermination.pdf

Project ID			7/27/2
· ·			
Project Category	I	Estimated Completion Date	Project Status
ivestock		June 2005	Completed
rojectType			
airy VOC Emissior	ns		
roject Name			
olatile Organic Cor	mpound (VOC) Emissions	from Cows Fed Typical Califor	nia Rations
roject Description			
conducted in an env	ironmental chamber that s	e under controlled conditions. I simulates commercial concrete- nd CH4 were measured from co	-floored freestall cow housing
eport Location			
YI 1	Affiliation PI 1	Fund Source 1	Amount 1
. Mitloehner	UC Davis	US EPA	\$75,000
12	Affiliation PI 2	Fund Source 2	Amount 2
3. Flocchini	UC Davis		
13	Affiliation PI 3	Fund Source 3	Amount 3
P. Robinson	UC Davis		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
	, amadon 1	. und course o	, and an a

Related info 2

http://www.4cleanair.org/Documents/APCODetermination.pdf

UCD Dairy Air Quality Symposium presentation 10-11-06 available at: http://www.arb.ca.gov/ag/caf/FrankMitloehnerDairvSymposiumOct06.pdf

Project ID			7/27/2
''			
Project Category		ted Completion Date	Project Status
Livestock	June 20	007	Completed
ProjectType			
Dairy Emissions Mitig	gation		
Project Name			
Effects of Liquid Dair	y Manure Aeration on Air Quality	y and Nutrient Cycling	
Project Description			
	uate the air and water emission i	mitigation effects of a wastey	water treatment
technology for Califor	rnia dairies to determine whethe	r/to what extent aerobic treat	tment systems can cost-
effectively reduce en	vironmental impacts associated	with manure storage.	
Report Location	a the book "Deiry Manure Mana	goment: Treetment Hendlin	a and Community
Paper is presented in Relations". Available	n the book, "Dairy Manure Mana for \$42 at:	gement: Treatment, Handlin(	y, and Community
http://www.nraes.org/ E01F	/nra_order.taf?_function=detail&	pr_id=48&_UserReference=	8429860989D767704899
EUIF			
DI 4	Affiliation DI 4	Fund Course 4	A
PI 1 C. Collar	Affiliation PI 1  UCCE - Kings County	Fund Source 1 UC ANR	Amount 1 \$30,000
C. Collai	OCCL - Kings County	OC AIVIN	φ50,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
F. Mitloehner	UC Davis		
PI 3 J. McGarvey	Affiliation PI 3 USDA - ARS	Fund Source 3 UCCE	Amount 3
J. McGarvey	USDA - AKS	OCCE	
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
	1000 H 51 5		
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
Related info 1			
Related info 2			

Project ID			7/27/20		
12			1721720		
Project Category	Fs	timated Completion Date	Project Status		
Livestock 2006 Completed					
Paris of Tara					
ProjectType Dairy Waste					
Project Name Characterization of Da	airy Waste Management S	trategies with Regard to Pathogo	ens and Air Quality		
onaracienzation of De	any waste management of	trategies with regard to rating	cris and All Quality		
Project Description					
Examine the effect that properties of waste.	at aerobic and anaerobic tr	eatments have on the microbiol	ogical and chemical		
Report Location					
Abstract available at:		ublications htm2050 NO 445	105014		
nup://www.ars.usda.g	ov/researcn/publications/p	ublications.htm?SEQ_NO_115=	:190211		
PI 1	Affiliation PI 1	Fund Source 1	Amount 1		
F. Mitloehner	UC Davis	USDA - ARS	\$30,300		
PI 2	Affiliation PI 2	Fund Source 2	Amount 2		
R. Zhang	UC Davis				
PI 3	Affiliation PI 3	Fund Source 3	Amazunt 2		
P1 3	Aniliation P13	Fund Source 3	Amount 3		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4		
PI 5	Affiliation PI 5	Fund Source 5	Amount 5		
	,	, and course c	, and an		
Related info 1	·				
related fillo 1					
Related info 2					

Project ID			7/27/2010
13			
Project Category	Es	stimated Completion Date	Project Status
Livestock	S	eptember 2009	In progress
ProjectType	,		,
Dairy Emissions			
Due in at Nie and			
Project Name  Estimating and Redu	ucing Air Emissions from D	airy Feeding Operations	
	g	, · · · · · · · · · · · · · · · · · ·	
Project Description			
Report Location			
Several study preser	ntations, see below; no fina	I report located.	
PI 1	Affiliation PI 1	Fund Source 1	Amount 1
F. Mitloehner	UC Davis	USDA - CSREES	\$278,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
R. Zhang	UC Davis	USDA - ARS	
DI O	A(CIII di BLO		1.0
PI 3 C. Krauter	Affiliation PI 3 CSU Fresno	Fund Source 3 CSU Fresno	Amount 3
O. Riddler	000 1 103110	GGG I IGSIIG	
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
FIS	Allillation F13	r und Source S	Amount 5
Polotod info 4		,	,
Related info 1	edu/wastemamt/Mitigation	n_Conference_proceedings/CD_	proceedings/Animal Housi
	Freestall_housing.pdf		
Related info 2			
http://www.airquality.	nrcs.usda.gov/AAQTF/Dod	cuments/200809_201008/20090	5_FresnoCA/01_Zhang_AA
QTF 200905.pdf			

Project Category Livestock  ProjectType Dairy Nutrient  Project Name Nutrient Balances in California Dairy Herds Project Description  Report Location http://californiaagriculture.ucanr.org/landingpage.cfm?article=ca.v061n02p90&abstract=yes  Pl	Livestock  ProjectType Dairy Nutrient  Project Name Nutrient Balances in California Dairy Herds  Project Description  Report Location http://californiaagriculture.ucanr.org/landingpage.cfm?article=ca.v061n02p90&abstract=yes  PI 1	Project ID 14			7/27/2010		
Livestock  Project Type Dairy Nutrient  Project Name Nutrient Balances in California Dairy Herds  Project Description  Report Location  http://californiaagriculture.ucanr.org/landingpage.cfm?article=ca.v061n02p90&abstract=yes  PI 1	Livestock  ProjectType Dairy Nutrient  Project Name Nutrient Balances in California Dairy Herds  Project Description  Report Location http://californiaagriculture.ucanr.org/landingpage.cfm?article=ca.v061n02p90&abstract=yes  PI 1	Project Category	Est	imated Completion Date	Project Status		
Dairy Nutrient	Dairy Nutrient  Project Name Nutrient Balances in California Dairy Herds  Project Description  Report Location http://californiaagriculture.ucanr.org/landingpage.cfm?article=ca.v061n02p90&abstract=yes  PI 1						
Dairy Nutrient  Project Name Nutrient Balances in California Dairy Herds  Project Description  Report Location  http://californiaagriculture.ucanr.org/landingpage.cfm?article=ca.v061n02p90&abstract=yes  PI 1	Dairy Nutrient  Project Name Nutrient Balances in California Dairy Herds  Project Description  Report Location http://californiaagriculture.ucanr.org/landingpage.cfm?article=ca.v061n02p90&abstract=yes  PI 1	Dunin etT. un e			Į		
Project Name Nutrient Balances in California Dairy Herds  Project Description  Report Location http://californiaagriculture.ucanr.org/landingpage.cfm?article=ca.v061n02p90&abstract=yes  PI 1	Project Name Nutrient Balances in California Dairy Herds  Project Description  Report Location  http://californiaagriculture.ucanr.org/landingpage.cfm?article=ca.v061n02p90&abstract=yes  PI 1						
Nutrient Balances in California Dairy Herds  Project Description  Report Location  http://californiaagriculture.ucanr.org/landingpage.cfm?article=ca.v061n02p90&abstract=yes  PI 1	Nutrient Balances in California Dairy Herds  Project Description  Report Location  http://californiaagriculture.ucanr.org/landingpage.cfm?article=ca.v061n02p90&abstract=yes  PI 1	Daily Nutrient					
Project Description  Report Location  http://californiaagriculture.ucanr.org/landingpage.cfm?article=ca.v061n02p90&abstract=yes  PI 1	Project Description  Report Location  http://californiaagriculture.ucanr.org/landingpage.cfm?article=ca.v061n02p90&abstract=yes  PI 1						
Report Location http://californiaagriculture.ucanr.org/landingpage.cfm?article=ca.v061n02p90&abstract=yes  PI 1	Report Location http://californiaagriculture.ucanr.org/landingpage.cfm?article=ca.v061n02p90&abstract=yes  PI 1	Nutrient Balances in	California Dairy Herds				
Report Location http://californiaagriculture.ucanr.org/landingpage.cfm?article=ca.v061n02p90&abstract=yes  PI 1	Report Location http://californiaagriculture.ucanr.org/landingpage.cfm?article=ca.v061n02p90&abstract=yes  PI 1	Project Description					
A. Costillo  UCCE Merced  PI 2  Affiliation PI 2  F. Mitloehner  UC Davis  PI 3  D. Bacon  UCCE Tulare  PI 4  Affiliation PI 4  PI 5  Affiliation PI 5  Fund Source 2  Amount 2  Fund Source 3  Amount 3  Fund Source 4  Amount 4  Fund Source 5  Amount 5	A. Costillo  UCCE Merced  PI 2  Affiliation PI 2  F. Mitloehner  UC Davis  PI 3  D. Bacon  UCCE Tulare  PI 4  Affiliation PI 4  PI 5  Affiliation PI 5  Fund Source 2  Amount 2  Fund Source 3  Amount 3  Fund Source 4  Amount 4  Fund Source 4  Amount 4  Fund Source 5  Amount 5  Fund Source 5		ulture.ucanr.org/landingpage.	.cfm?article=ca.v061n02p90&	abstract=yes		
A. Costillo  UCCE Merced  PI 2  Affiliation PI 2  F. Mitloehner  UC Davis  PI 3  D. Bacon  UCCE Tulare  PI 4  Affiliation PI 4  PI 5  Affiliation PI 5  Affiliation PI 5  Related info 1	A. Costillo  UCCE Merced  PI 2  Affiliation PI 2  F. Mitloehner  UC Davis  PI 3  D. Bacon  UCCE Tulare  PI 4  Affiliation PI 4  PI 5  Affiliation PI 5  Related info 1	DI 1	Affiliation DI 1	Fund Source 1	Amount 1		
PI 2 Affiliation PI 2 F. Mitloehner UC Davis  PI 3 Affiliation PI 3 D. Bacon UCCE Tulare  PI 4 Affiliation PI 4  PI 5 Affiliation PI 5  Related info 1	PI 2 Affiliation PI 2 F. Mitloehner UC Davis  PI 3 Affiliation PI 3 D. Bacon UCCE Tulare  PI 4 Affiliation PI 4  PI 5 Affiliation PI 5  Related info 1						
F. Mitloehner  UC Davis  PI 3 Affiliation PI 3 D. Bacon  UCCE Tulare  PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5	F. Mitloehner  UC Davis  PI 3  Affiliation PI 3  D. Bacon  UCCE Tulare  PI 4  Affiliation PI 4  PI 5  Affiliation PI 5  Related info 1	7t. Costillo	OOOL Worodd	007441	Ψ+0,000		
PI 3 Affiliation PI 3 D. Bacon UCCE Tulare  PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1	PI 3 Affiliation PI 3 D. Bacon UCCE Tulare  PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1	PI 2	Affiliation PI 2	Fund Source 2	Amount 2		
D. Bacon  UCCE Tulare  PI 4  Affiliation PI 4  Fund Source 4  Amount 4  Fund Source 5  Amount 5  Related info 1	D. Bacon  UCCE Tulare  PI 4  Affiliation PI 4  Fund Source 4  Amount 4  PI 5  Affiliation PI 5  Fund Source 5  Amount 5  Related info 1	F. Mitloehner	UC Davis				
D. Bacon  UCCE Tulare  PI 4  Affiliation PI 4  Fund Source 4  Amount 4  Fund Source 5  Amount 5  Related info 1	D. Bacon  UCCE Tulare  PI 4  Affiliation PI 4  Fund Source 4  Amount 4  Fund Source 5  Amount 5  Related info 1	DI 2	Affiliation DL 2	Fund Source 2	Amount 2		
PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1	PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1			Fulla Source 5	Amount 3		
PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1	PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1	B. Baoon	OOOL Tulate				
Related info 1	Related info 1	PI 4	Affiliation PI 4	Fund Source 4	Amount 4		
Related info 1	Related info 1						
Related info 1	Related info 1	DI E	Affiliation DL 5	Fund Courses F	Amount F		
		F13	Amiliation PT5	Fund Source 5	Amount 5		
		Polated info 1		,			
Related info 2	Related info 2	Neiateu IIIIU I					
Related info 2	Related info 2						
		Related info 2					
		<u> </u>					

Project ID 15			7/27/2010
Project Category	Es	timated Completion Date	Project Status
Livestock		arch 2008	Completed
ProjectType			
Dairy Emissions			
Project Name			
Effects of Dietary Rur	mensin® on GHG and VO	Emissions from Lactating Dair	y Cows
Project Description			
Report Location		Responses_to_Dietary_Monens	
ws	-	, ,-	
PI 1	Affiliation PI 1	Fund Source 1	Amount 1
F. Mitloehner	UC Davis	Eli Lilly-Elanco	\$50,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
E. DePeters	UC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
J. MacGarvey	USDA - ARS		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
PIS	Allillation PT 5	Fulla Source 5	Amounts
Deleted info	•	-	
Related info 1	DoPotore IA McCorrect	J. Lathrop, and F.M. Mitloehner	2010 Groophouse Cos
		J. Lathrop, and F.M. Mittoenner Structure Responses to Dietary I	
Related info 2			

Project ID			7/27/2
Project Category		Estimated Completion Date	Project Status
Education		May 2010	In Progress
ProjectType			
Dairy Air Quality			
Project Name			
Western Region Dair	y Odor and Air Qualit	ty Education	
Project Description			
farming in the West a industries. The grant producing areas of th	as a way to promote a recipients plan to tra ne Western region, or	nt Program grant is to reduce the e and guarantee the sustainability of ain agricultural professionals, selec- in the best management practices a ur hands-on workshops will be con-	the milk and cheese ted from around the dairy available to dairy producers to
PI 1	Affiliation PI 1	Fund Source 1	Amount 1
P. Ndegwa	WSU	USDA - SARE	\$89,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
F. Mittloehner	UC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
R. Sheffield	Univ. of Idaho		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
Related info 1			
	om NM State (R. Had	gevoort) and OSU (M. Gamroth)	
	, 3	, , ,	
Related info 2			

Project ID 18					7/27
Project Category		Estimate	ed Completion Date	Project S	Statue
Livestock		January	·	Draft Re	
J		1			
ProjectType Steer Emissions					
Oteer Emissions					
Project Name					
Volatile Organic Cor and Their Waste	npound and Greenho	use Gas Em	nissions from Growing	and Finishing Fe	eedlot Steers
Project Description					
greenhouse gas (me	ethane, nitrous oxide,	and carbon	atile fatty acids, amine dioxide) emissions fro h waste using environ	m receiving, gro	wing and
Report Location Report submitted for					
PI 1	Affiliation PI 1		Fund Source 1		Amount 1
F. Mitloehner	UC Davis		Calfornia Cattleme	n Assoc.	\$169,590
PI 2	Affiliation PI 2		Fund Source 2		Amount 2
S. Trabue	USDA - ARS		California Feeder C	Council	\$0
PI 3	Affiliation PI 3		Fund Source 3		Amount 3
					\$0
PI 4	Affiliation PI 4		Fund Source 4		Amount 4
PI 5	Affiliation PI 5		Fund Source 5		Amount 5
Related info 1					
	ween the two funding	sources			
Related info 2					

Project ID					7/27/	2010
Project Category		Estimated C	Completion Date	Project Sta	atus	
Livestock		December	2006	Unknown		
ProjectType						
Equipment Study						
Project Name						
UC Equipment Match	ning Funds Program					
Project Description						
No description, but p	roject cited at http://a	animalscience.u	cdavis.edu/faculty	//Mitloehner/pdf/Gr	rants.pdf	
Report Location						
PI 1	Affiliation PI 1	F	und Source 1		Amount 1	
F. Mitloehner	UC Davis		JC Davis, Chance	llor for Research	\$140,000	
PI 2	Affiliation PI 2	F	fund Source 2		Amount 2	
PI 3	Affiliation PI 3	F	Fund Source 3		Amount 3	
PI 4	Affiliation PI 4	F	Fund Source 4		Amount 4	
PI 5	Affiliation PI 5	F	und Source 5		Amount 5	
Related info 1						
Related info 2						
-33333						

Project ID			7/27/2010
20			
Project Category	Estimate	ed Completion Date	Project Status
Dairy Digester	Februra	ry 2009	Completed
ProjectType			
Covered Lagoon Emission	าร		
Project Name			
Covered Lagoon Digester	Emission Measurements		
Duningst Denomination			
Project Description  Measurements of NH3. m	ethane, and VOCs at dairies	s with CEC funded dairy	digester installations.
Evaluates the Dairy Powe	r Production Program (DPP)	P). The DPPP was initiat	ed to encourage the
projects on California dair	ly based anaerobic digestior ies.	and gasification (" logas	s") electricity generation
Report Location			
•	/2009publications/CEC-500-	2009-009/CEC-500-2009	9-009.PDF
3, 3.			
PI 1	Affiliation PI 1	Fund Source 1	Amount 1
Dairy Power Production	Western United	CEC, PIER	\$500,000
Program PI 2	Resource Dev't, Inc.  Affiliation PI 2	Fund Source 2	Amount 2
FIZ	Allillation F12	Fulla Source 2	Amount 2
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
0.5	ACCU CL DIS		
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
Deleted Sec. 4	,	,	,
Related info 1			
Related info 2			
<u> </u>			

Project ID			7/27/20
22			1721720
Project Category	Fs	timated Completion Date	Project Status
Livestock		005	Completed
Droin at Turns			
ProjectType Dairy PM, NH3 Soul	rces		
Project Name	of PM10 and ozone precurs	nore	
Agricultural sources	of Pivi to and ozone precurs	SOIS	
Project Description			
Compile PM10 and upwind and downwir	NH3 emission factors. Meas	sure concentrations of VOC relev	ent to to ozone formation
upwina ana aownwii	id of daines		
Report Location			
		/192080.html. Contians citations	for J. Air & Waste
ıvıanage. Assoc. 55:	ชา6-825 and J. Air & Waste	Manage. Assoc. 55:826-833	
PI 1	Affiliation PI 1	Fund Source 1	Amount 1
R. Flocchini	UC Davis	USDA	\$374,145
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
C. Parnell	Texas A&M		
PI 3 R. Higashi	Affiliation PI 3 UC Davis	Fund Source 3	Amount 3
K. Higasiii	OC Davis		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
ri o	Aniliation PT5	Fund Source 5	c inuomA
	'		,
Related info 1			
Related info 2			

D : ID			7,07,07
Project ID 23			7/27/20
20			
Project Category		ted Completion Date	Project Status
Livestock	June 2	007	Completed
ProjectType			
Dairy Emissions Mod	deling		
Project Name			
Developing a Proces	s Based Model for GHG for Cal	ifornia Dairies, Contract 0	5-344
Project Description			
Project Description	ciples and mass balance, develo	on a cradle-to-grave emiss	sions model to provide
Report Location	v/research/apr/past/05-344.pdf		
	ACCULATE DIA		
PI 1 F. Mitloehner	Affiliation PI 1	Fund Source 1 CEC PIER	Amount 1
·. Mittoenner	UC Davis	CEC PIER	\$119,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
V. Salas	Univ. New Hampshire		
13	Affiliation PI 3	Fund Source 3	Amount 3
R. Zhang	UC Davis		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
Related info 1	,		,
	00 total - \$119,00 for Mitloehner	portion	
Related info 2			
ttp://www.westernda	airies.org/2009symposium/Mitlo	ehner.pdf	

Project ID		7/27/2010
24		
Project Category	Estimated Completion Date	Project Status
Livestock	2005	Completed
ProjectType	,	
Ammonia Modeling		
Project Name		
Development of a Process-Based Am	nmonia Model for Livestock Sources	

## Project Description

Develop a process-based model of ammonia emissions from five types of animal feeding operations: dairy, beef, swine, chicken, and turkey.

## Report Location

EPA conference at: http://www.epa.gov/ttn/chief/conference/ei14/index.html (search Zhang)

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
G. Tonneson	UC Riverside	LADCO	\$250,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
Z. Wang	UC Davis	Lake Michigan Air Directors Consortium	
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
R. Zhang	UC Davis		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
G. Mansell	ENVIRON Int'l Corp.		
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
J. Haasbeek	ENVIRON Int'l Corp.		

#### Related info 1

Other researchers - J. Fadel, R. Zhang, G. Mansell, J. Haasbeek.

## Related info 2

Abstract on page 9 at: http://www.epa.gov/ttn/chief/conference/ei14/final2005.pdf

Project ID 25			7/27/2010
Project Category	Estim	nated Completion Date	Project Status
Education	Marc	h 2005	Completed
ProjectType	,		•
Dairy Air Quality			
Project Name	Air Module Curriculum for the C	California Dairy Quality Acc	curanca Program (CDOAP)
Development of an A	All Module Curriculum for the C	Daily Quality As:	surance Flogram (CDQAF)
Project Description			
Report Location			
	reports/CDQAP%20Annual%2		
PI 1	Affiliation PI 1	Fund Source 1	Amount 1
F. Mitloehner	UC Davis	US EPA	\$50,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
D. Meyer	UC Davis, CDQAP		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
M. Payne			
	A COLL . II. The College of the Coll		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
J			
Related info 1			
	.org/Documents/APCODeterm	ination.pdf	
J			
Related info 2			

Project ID 26			7/27/20
Project Category Livestock		Estimated Completion Date December 2005	Project Status Completed
<mark>ProjectType</mark> Dairy Ammonia Emi	ssions		
Project Name			
∟aser-based Sensoı	rs for Monitoring Ammo	onia Emissions	
Project Description			
for measuring ambie	ent ammonia in agricult vis where the excreta f	r enhanced photoacoustic spectros rural settings. Field testing was per rom three Holstein cows were allow	formed in environmental
Report Location			
	ca.com/pdf/MST-16-15	·	
임 1	Affiliation PI 1	Fund Source 1	Amount 1
C. Patel	Pranalytica	USDA - SBIR I	\$20,000
기 2	Affiliation PI 2	Fund Source 2	Amount 2
F. Mitloehner	UC Davis		
기 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
Related info 1 679,000 total; \$20,0	000 for Mitloehner porti	on	
Related info 2			
nstitute of Physics	Publishing, Meas. Sci.	Technol. 16 (2005) 1547-1553	

27			7/27/
Project Category		Estimated Completion Date	Project Status
Livestock		December 2006	Completed
<u> </u>			
ProjectType Dairy Ammonia Emis	esions		
Daily Aminonia Emis	5510115		
Project Name			
Laser-based Sensor	s for Monitoring Ammo	onia Emissions	
Project Description			
for measuring ambie	nt ammonia in agricultris where the excreta f	er enhanced photoacoustic spectro tural settings. Field testing was pe from three Holstein cows were allo	erformed in environmental
Report Location	J/abstract/0957-0233/1		
PI 1	Affiliation PI 1	Fund Source 1	Amount 1
C. Patel	Pranalytica	USDA - SBIR II	\$75,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
F. Mitloehner	UC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
Related info 1			
\$350,000 (\$75,000 fo	or Mitloehner portion)		
Related info 2			
Related info 2			
Related info 2			

Project ID 28					7/27/20
Project Category		Estimated	Completion Date	Project S	tatus
Livestock		July 2005		Complete	ed
ProjectType		,		ľ	
Pig Study					
Duc's of Nove					
Project Name  Effect of Atmospheri	c Ammonia on Pig W	elfare			
	57g 11	0.1.0.0			
Project Description					
Report Location					
08/24/07 Pork Board MITLOEHNER.ABS.	abstract: http://www.	pork.org/Pork	Science/Research/D	Documents/03-15	9-
WILL TEOLI INER.ABS.	0-2 <i>1</i> <b>-</b> 04.μαΙ				
PI 1	Affiliation PI 1		Fund Source 1		Amount 1
F. Mitloehner	UC Davis		National Pork Boar	rd	\$40,000
PI 2	Affiliation PI 2		Fund Source 2		Amount 2
	, timation 112		i una courso z		7 anount 2
PI 3	Affiliation PI 3		Fund Source 3		Amount 3
PI 4	Affiliation PI 4		Fund Source 4		Amount 4
114	7 tilliation 1 1 4		T drid Godrec 4		7tinodit 4
PI 5	Affiliation PI 5		Fund Source 5		Amount 5
Related info 1					
Related info 2					

Project ID 29			7/27/2
Project Category		Estimated Completion Date	Project Status
Worker Exposure		September 2011	In progress
			1 13 111
ProjectType			
Dairies			
Project Name			
Respiratory Exposure	es and Health of Wo	orkers on California Dairies (NIOSH)	
Drainet Description			
Project Description  Monitor exposures of	f 200 dairy workers a	at large dairies to dust and ammonia	a to define the concentrations
of any airborne pollut	tants highly associate	ted with respiratory problems.	a to define the concentrations
Report Location			
PI 1	Affiliation PI 1		Amount 1
F. Mitloehner	UC Davis	NIOSH	\$1,700,000
DI O	A (fill ti Di o		A 10
PI 2 M. Schenker	Affiliation PI 2 UC Davis	Fund Source 2	Amount 2
w. Schenker	OC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
D. Bennett			
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
DI 6	Affiliation PI 5	Fund Source 5	Amount 5
PI 5	Aniliation PI 5	Fund Source 5	Amount 5
		' '	<u>'</u>
Related info 1			
UC Davis' program -	CA Dairy Environ He	lealth Research Inititative (Cal-DEH	RI)
Related info 2			
Field phase in progre	ess, June 2008		

Project Category Pesticide Study ProjectType Ozone Impacts Project Name Investigation of Atmospheric Ozone Impacts of Selected Pesticides Project Description Develop methods for estimating and quantifying ozone impacts for selected pesticide compounds for which such estimates are not currently available.  Report Location Report of Jan. 10, 2007 available at: http://www.arb.ca.gov/research/apr/past/04-334.pdf  PI 1	Pesticide Study ProjectType Ozone Impacts Project Name Investigation of Atmospheric Ozone Impacts of Selected Pesticides Project Description Develop methods for estimating and quantifying ozone impacts for selected pesticide compounds for which such estimates are not currently available.  Report Location Report of Jan. 10, 2007 available at: http://www.arb.ca.gov/research/apr/past/04-334.pdf  PI	Project ID 30			7/27/2
Project Name Investigation of Atmospheric Ozone Impacts of Selected Pesticides Project Description Develop methods for estimating and quantifying ozone impacts for selected pesticide compounds for which such estimates are not currently available.  Report Location Report of Jan. 10, 2007 available at: http://www.arb.ca.gov/research/apr/past/04-334.pdf  PI 1	Project Name Investigation of Atmospheric Ozone Impacts of Selected Pesticides Project Description Develop methods for estimating and quantifying ozone impacts for selected pesticide compounds for which such estimates are not currently available.  Report Location Report of Jan. 10, 2007 available at: http://www.arb.ca.gov/research/apr/past/04-334.pdf  PI 1	Project Category		Estimated Completion Date	Project Status
Project Name   Investigation of Atmospheric Ozone Impacts of Selected Pesticides	Project Name   Investigation of Atmospheric Ozone Impacts of Selected Pesticides	Pesticide Study		February 2006	Completed
Project Name   Investigation of Atmospheric Ozone Impacts of Selected Pesticides	Project Name   Investigation of Atmospheric Ozone Impacts of Selected Pesticides	ProjectType			
Investigation of Atmospheric Ozone Impacts of Selected Pesticides  Project Description  Develop methods for estimating and quantifying ozone impacts for selected pesticide compounds for which such estimates are not currently available.  Report Location  Report of Jan. 10, 2007 available at: http://www.arb.ca.gov/research/apr/past/04-334.pdf  PI	Investigation of Atmospheric Ozone Impacts of Selected Pesticides  Project Description  Develop methods for estimating and quantifying ozone impacts for selected pesticide compounds for which such estimates are not currently available.  Report Location  Report of Jan. 10, 2007 available at: http://www.arb.ca.gov/research/apr/past/04-334.pdf  PI				
Investigation of Atmospheric Ozone Impacts of Selected Pesticides  Project Description  Develop methods for estimating and quantifying ozone impacts for selected pesticide compounds for which such estimates are not currently available.  Report Location  Report of Jan. 10, 2007 available at: http://www.arb.ca.gov/research/apr/past/04-334.pdf  PI	Investigation of Atmospheric Ozone Impacts of Selected Pesticides  Project Description  Develop methods for estimating and quantifying ozone impacts for selected pesticide compounds for which such estimates are not currently available.  Report Location  Report of Jan. 10, 2007 available at: http://www.arb.ca.gov/research/apr/past/04-334.pdf  PI	Drainet Name			
Project Description  Develop methods for estimating and quantifying ozone impacts for selected pesticide compounds for which such estimates are not currently available.  Report Location  Report of Jan. 10, 2007 available at: http://www.arb.ca.gov/research/apr/past/04-334.pdf  PI	Project Description  Develop methods for estimating and quantifying ozone impacts for selected pesticide compounds for which such estimates are not currently available.  Report Location  Report of Jan. 10, 2007 available at: http://www.arb.ca.gov/research/apr/past/04-334.pdf  PI		mospheric Ozone Impacts	s of Selected Pesticides	
Develop methods for estimating and quantifying ozone impacts for selected pesticide compounds for which such estimates are not currently available.  Report Location  Report of Jan. 10, 2007 available at: http://www.arb.ca.gov/research/apr/past/04-334.pdf  PI	Develop methods for estimating and quantifying ozone impacts for selected pesticide compounds for which such estimates are not currently available.  Report Location Report of Jan. 10, 2007 available at: http://www.arb.ca.gov/research/apr/past/04-334.pdf  PI				
which such estimates are not currently available.  Report Location  Report of Jan. 10, 2007 available at: http://www.arb.ca.gov/research/apr/past/04-334.pdf  PI	which such estimates are not currently available.  Report Location  Report of Jan. 10, 2007 available at: http://www.arb.ca.gov/research/apr/past/04-334.pdf  PI				
Report of Jan. 10, 2007 available at: http://www.arb.ca.gov/research/apr/past/04-334.pdf  PI 1	Report of Jan. 10, 2007 available at: http://www.arb.ca.gov/research/apr/past/04-334.pdf  PI 1	which such estima	for estimating and quantifites are not currently avail	ying ozone impacts for selected able.	pesticide compounds for
PI 1	PI 1	Report Location			
W. Carter  UC Riverside  PI 2  Affiliation PI 2  PI 3  Affiliation PI 3  PI 4  Affiliation PI 4  PI 5  Affiliation PI 5  Related info 1  ARB  \$100,000  Fund Source 2  Amount 2  Fund Source 3  Amount 3  Fund Source 4  Amount 4  Fund Source 5  Amount 5	W. Carter  UC Riverside  PI 2  Affiliation PI 2  Fund Source 2  Amount 2  Fund Source 3  Amount 3  Fund Source 4  Amount 4  PI 5  Affiliation PI 5  Fund Source 5  Amount 5  Related info 1	Report of Jan. 10,	2007 available at: http://w	ww.arb.ca.gov/research/apr/pas	t/04-334.pdf
PI 2 Affiliation PI 2 Fund Source 2 Amount 2  PI 3 Affiliation PI 3 Fund Source 3 Amount 3  PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1	PI 2 Affiliation PI 2 Fund Source 2 Amount 2  PI 3 Affiliation PI 3 Fund Source 3 Amount 3  PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1	PI 1	Affiliation PI 1	Fund Source 1	Amount 1
PI 3 Affiliation PI 3 Fund Source 3 Amount 3  PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5	PI 3 Affiliation PI 3 Fund Source 3 Amount 3  PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5	W. Carter	UC Riverside	ARB	\$100,000
PI 3 Affiliation PI 3 Fund Source 3 Amount 3  PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1	PI 3 Affiliation PI 3 Fund Source 3 Amount 3  PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5	DI O	Affiliation DLO	F. v. d O. v. v. o.	A
PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1	PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1	PI Z	Amiliation P1 2	Fund Source 2	Amount 2
PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1	PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1				
PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1	PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1	PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1	PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1				
Related info 1	Related info 1	PI 4	Affiliation PI 4	Fund Source 4	Amount 4
Related info 1	Related info 1				
Related info 1	Related info 1	D. F.	ACCULATE DES		
		PI 5	Affiliation PI 5	Fund Source 5	Amount 5
		Deleted info 4	,		,
Related info 2	Related info 2	Related Into 1			
Related info 2	Related info 2	]			
		Related info 2			

Project ID 31			7/27/2010
	F-ti	motod Completion Data	oot Status
Project Category Pesticide Study			ect Status npleted
			<u>'</u>
ProjectType VOC Emissions			
VOC EIIIISSIOIIS			
Project Name			
Agricultural Pesticide	VOC Sources and their Pho	otochemical Ozone Formation Potentia	ı
Project Description			
Improve current unde	erstanding of the photochemi	ical O3 formation potential of VOCs fro	m agricultural
pesticide applications	s in the San Joaquin Valley.		
Report Location			
	a.gov/web/crisprojectpages/2	204179.html	
-			
PI 1	Affiliation PI 1	Fund Source 1	Amount 1
B. Flocchini	UC Davis	USDA	\$400,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
R. Higashi	UC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
M. Kleeman	UC Davis		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
P. Green	UC Davis		
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
Related info 1	·		
	vis.edu/pages/events/2008/gr	reen acres/GREEN.pdf	
., ,			
Related info 2			

Project ID 32			7/27/2010
Project Category		ed Completion Date	Project Status
Pesticide Study	2005		Completed
ProjectType			
Fumigation			
Project Name			
Commercialization o	f Intermittent Water Sealing		
Project Description			
Identify optimal wate fumigants.	r management strategies for wat	er sealing commercial-scale	application of
Report Location			
http://mbao.org/2005	5/MBAO%202005%20pdfs/Prepla	nt/8/Sullivan.pdf	
PI 1	Affiliation PI 1	Fund Source 1	Amount 1
D. Sullivan	Sullivan Environmental Consulting	USDA	\$78,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
H. Ajwa			
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
J. Radewald			
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
Polotod info 4			
	n the study		
Related info 1 CDPR participated ir	n the study		
	n the study		
CDPR participated ir	n the study		
CDPR participated ir	n the study		

Project ID			7/27/2010
Project Category		mated Completion Date	Project Status
On-Field	Dec	cember 2005	Completed
ProjectType			
Soil Ammonia Emisi	sons		
Project Name			
	Estimates of Ammonia Emis	sions from Native Soils in Ca	lifornia
Project Description			
Develop California s	pecific ammona emission fac	ctors and modeling for native s	soils within California
Report Location			
<u> </u>	tn/chief/conference/ei12/part	/krauter.pdf (2003)	
임 1	Affiliation PI 1	Fund Source 1	Amount 1
C. Krauter	CSU Fresno	ARB	\$200,000
인 2	Affiliation PI 2	Fund Source 2	Amount 2
C. Potter	NASA Ames		
임 3	Affiliation PI 3	Fund Source 3	Amount 3
S. Klooster	CSU Monterey	T una Cource o	7 tillodile o
	Í		
인 4	Affiliation PI 4	Fund Source 4	Amount 4
임 5	Affiliation PI 5	Fund Source 5	Arrayurt 5
21.5	Affiliation PI 5	Fund Source 5	Amount 5
			<u> </u>
Related info 1			
nttp://geo.arc.nasa.g	ov/sge/casa/regional/califorr	ııa.html	
Polotod info 0			
Related info 2			

Project ID			7/27/
34			
Project Category	Esti	imated Completion Date Project St	tatus
On-Field	Jun	ne 2005 Complete	ed
ProjectType			
Crop ammonia Emiss	sions		
Project Name	<u> </u>		
	nia Emissions from Crop Pro	eduction With a Tunable Diode Laser	
<u> </u>	·		
Project Description			
	TDL system for the determ fic agricultural operations.	ination of ambient ammonia levels and amm	ionia
Report Location			
Partial, 2005 EPA co	onference. http://www.epa.g	jov/ttn/chief/conference/ei14/index.html (sea	rch Krauter)
ર્ય 1	Affiliation PI 1	Fund Source 1	Amount 1
C. Krauter	CSU Fresno	CSU Agricultural Research Initiativ	\$296,000
인 2	Affiliation PI 2	Fund Source 2	Amount 2
D. Goorahoo	CSU Fresno	ARB	\$148,000
			. ,
ગ ૩	Affiliation PI 3	Fund Source 3	Amount 3
3. Goodrich	CSU Fresno	Unisearch	\$148,000
인 4	Affiliation PI 4	Fund Source 4	Amount 4
M. Beene	CSU Fresno	. 4.14 554.155 7	7 till Quit T
ମ 5	Affiliation PI 5	Fund Source 5	Amount 5
Related info 1			
\$296,000 ARI to mate	ch ARB and UniSearch fund	ling	
Related info 2			

Project ID				7/27/2010
35				
Project Category		nated Completion Date	Project Status	
On-Field	201	1 (CA in 2009)	In Progress	
ProjectType				
PM Emissions				
Project Name				
Cotton Gin PM Emission	s Research			
Project Description				
Project Description	LIO EDAL-	hods which may significant	harana a d'arata DM	
		od). Develop PM dispersior particle size, shape. Six tes		M2.5,
Report Location				
PI 1	Affiliation PI 1	Fund Source 1	А	mount 1
M. Buser	USDA ARS Lubbock T	X Various cotton indus associations	stry and ginners	\$147,500
PI 2	Affiliation PI 2	Fund Source 2	Α	mount 2
D. Whitelock	ARS - SW Cotton Ginning Research Lab	ARB		\$45,000
PI 3	Affiliation PI 3	Fund Source 3	А	mount 3
C. Boykin	Cotton Ginning Research Unit,	SJVAPCD		\$36,000
PI 4	Affiliation PI 4	Fund Source 4	A	mount 4
PI 5	Affiliation PI 5	Fund Source 5	A	mount 5
Related info 1			,	
Related info 2				

Project ID 36					7/27/20
Project Category		Estimate	ed Completion Date	Project Status	3
On-Field		2010		In Progress	
ProjectType				,	
ProjectType PM Emissions					
Project Name	( D	Hamasa Cara			
Evaluation of PM Er	missions from Raisin	Harvesting			
Project Description					
Evaluate emissions	from three different to	able grape ha	arvesting techniques		
Report Location					
PI 1	Affiliation PI 1		Fund Source 1	,	Amount 1
C. Krauter	CSU Fresno		??		
PI 2	Affiliation PI 2		Fund Source 2		Amount 2
J. Siliznoff	Allillation P1 2		Fund Source 2	/	Amount 2
0.0					
PI 3	Affiliation PI 3		Fund Source 3	,	Amount 3
PI 4	Affiliation PI 4		Fund Source 4		Amount 4
FI 4	Allillation F14		Fulld Source 4	/	AIIIOUIII 4
PI 5	Affiliation PI 5		Fund Source 5	,	Amount 5
Related info 1					
Related info 2					
,					

Project ID 37					7/27/201
Project Category		Estimate	ed Completion Date	Project Statu	JS
On-Field		2010		Drafting Rpe	eorts
ProjectType		•		•	
Emissions Mitigation	1				
Project Name					
	Emissions Reduct	ions Achieved	by Lower Emitting Ag	ricultural Practices	
Project Description					
Evaluation of control	effectiveness of tw	o SJVAPCD (	Conservation Managem	nent Practices for PN	M
(conservation tillage	and combined oper	ations)			
Report Location					
Draft report of Los B	anos work is under	reivew			
,					
PI 1	Affiliation PI	1	Fund Source 1		Amount 1
			US EPA RARE		
PI 2	Affiliation PI	2	Fund Source 2		Amount 2
PI 3	Affiliation PI	3	Fund Source 3		Amount 3
PI 4	Affiliation PI	1	Fund Source 4		Amount 4
1 4	Amilation P14	1	r und Source 4		Amount 4
PI 5	Affiliation PI	5	Fund Source 5		Amount 5
			l-	<u> </u>	
Related info 1					
Related info 2					
Related IIII0 Z					

Project Category On-Field ProjectType	Est 201	imated Completion Date	Project Status
On-Field ProjectType			
	= -		In Progress
N2O Emissions			
Project Name			
		e Nitrous Oxide and Nitric Oxide	Emissions in California
Project Description			
fertilizer practices for e wheat, lettuce, rice, ar 329, which adds on ev	each crop. Work began in and alfalfa systems to develo	ethods to evaluate flux emissions lune 2009. Measuring nitrous ox op emission factors. See also Pro	kide flux in tomato,
Report Location			
PI 1	Affiliation PI 1	Fund Source 1	Amount 1
W. Horwath	UC Davis	ARB	\$83,500
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
J. Six	UC Davis	CEC	
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
D. Goorahoo	CSU Fresno	CDFA	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
Deleted info 4			
Related info 1 See Project ID 62, co	ontract 09-329, which is an	add-on to study nitric acid	
<u>, , , , , , , , , , , , , , , , , , , </u>	,	,	
Related info 2			

Project ID			7/27/2010
Project Category		Estimated Completion Date	Project Status
Pesticide Study		October 2007	Completed
ProjectType			
VOC			
Project Name			
DPR Round-Robin V	OC Study		
Don't at December			
Project Description  Determine ways to im	nnrove VOC emission	estimates for solvents in pesticide form	ulations by comparing
the emissions under	field conditions to emis	sions seen in traditional TGA testing. R	Results showed more
		t only slightly. Most of the VOC increase	
important than VOC i		tOH in fuel. To decrease ozone, NOx re	eduction more
Report Location			
presentation at CDPF		maika a maria a la casa a M	
nττp://www.cdpr.ca.go	ov/aocs/emon/vocs/voc	proj/voc_regional_ozone.pdf	
PI 1	Affiliation PI 1	Fund Source 1	Amount 1
P. Green	UC Davis	None; cooperative effort o	f industry \$0
		including European partne	ers
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
113	Animation 113	I did Source 5	Amount 5
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
<u> </u>			
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
Related info 1			
I			
Related info 2			

Project ID			7/27/2
40			,
Project Category		Estimated Completion Date	Project Status
On-Field		December 2009	Completed
ProjectType			
Soil VOC Emissions	;		
roject Name			
	s of VOCs from Agric	ultural Soil Fumigation, ARB contract	t 05-351
Project Description	-	stimates for cumulative and hourly en	
	and predictive mode eral emission reduction	ls which will be compared to previous on strategies	s large-scale field
Report Location			
rl 1	Affiliation PI 1	Fund Source 1	Amount 1
Scott Yates	UC Riverside	ARB	\$200,000
71 2	Affiliation PI 2	Fund Source 2	Amount 2
lay Gan	UC Riverside	2007 Extension: ARE	
PI 3	Affiliation PI 3 UC Riverside	Fund Source 3	Amount 3
Л. Majewski	UC Riverside		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
D. Wang	UC Riverside		
15	Affiliation PI 5	Fund Source 5	Amount 5
Q. Wang	UC Riverside		, anount o
Related info 1			
ARB agreement 05-	351		
Related info 2			

Project ID 41			7/27/201			
Project Category		Estimated Completion Date	Project Status			
Livestock		August 2001	Completed			
ProjectTyres						
ProjectType Dairy & Feedlot En	nissions					
Daily & Feedlot En	1113310113					
Project Name						
Interim Report: So	urces and Sinks of PM10 in	the San Joaquin Valley, Augu	st 2001			
Project Description						
Evaluate on-field P	M10 emissions. Evaluate	PM10 and ammona emissions	for feedlots and dairies.			
Report Location						
	gov/research/apr/reports/l20	• ·				
PI 1	Affiliation PI 1	Fund Source 1	Amount 1			
R. Flocchini	UC Davis	USDA				
PI 2	Affiliation PI 2	Fund Source 2	Amount 2			
T. Cassel	UC Davis					
PI 3	Affiliation PI 3	Fund Source 3	Amount 3			
. 10	Ailliation F13	r una source s	Amounts			
PI 4	Affiliation PI 4	Fund Source 4	Amount 4			
DI 5	A CCU - CC - DL - C	510				
PI 5	Affiliation PI 5	Fund Source 5	Amount 5			
Related info 1						
Related info 2						
l						
P						

Project ID			7/07/00			
Project ID 42			7/27/20			
	-	atimated Completine Date	Droin at Ctatus			
Project Category On-field		stimated Completion Date une 2001	Project Status  Completed			
John Hold	Striked Sompleted					
ProjectType						
Ammonia Emission	5					
Project Name						
Statewide Inventory California	Estimates of Ammonia Em	nissions from Native Soils and Chem	ical Fertilizers in			
Project Description						
Measure and model available at: ftp://ftp	ammonia emissions from arb.ca.gov/carbis/reports/l	agricultural fertilizer application and 522.pdf	natural soils. Report			
Report Location						
intp.//www.arb.ca.go	ov/research/apr/reports/l522	z.pui				
PI 1	Affiliation PI 1	Fund Source 1	Amount 1			
C. Krauter	CSU Fresno	ARB	\$186,425			
PI 2	Affiliation PI 2	Fund Source 2	Amount 2			
C. Potter	NASA Ames					
PI 3	Affiliation PI 3	Fund Source 3	Amount 3			
S. Klooster	CSU Monterey					
PI 4	Affiliation PI 4	Fund Source 4	Amount 4			
PI 5	Affiliation PI 5	Fund Source 5	Amount 5			
			<u> </u>			
Related info 1						
Related info 2						

Project ID 43			7/27/2010
Project Category		mated Completion Date	Project Status
Livestock	Jun	e 1996	Completed
ProjectType			
Dairy Emissions			
Project Name			
Results of the Meas	surement of PM10 Precursor (	Compounds from Dairy Industry	Livestock Waste
Project Description			
Using environmenta	al flux chambers, evaluate dai	ry ammonia and ROG emission	is.
Report Location			
nttp://www.epa.gov/	ttn/chief/conference/ei14/sess	sion1/schmidt.pdf	
PI 1	Affiliation PI 1	Fund Source 1	Amount 1
C. Schmidt	Consultant	South Coast AQMD	
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
1.0	7 timedion 1 1 o	I dila coalco o	yundan d
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
Related info 1			
http://www.aqmd.go	ov/rules/proposed/pr1127.html		
Related info 2			
tolatod IIIIO Z			

Project ID  44			7/27/201			
Project Category		Estimated Completion Date	Project Status			
Pesticide Study		January 1995	Completed			
ProjectType	,		1			
VOC Emissions						
<u> </u>						
	Project Name  Results of the Measurement of Volatile Organic Compounds from Livestock Wastes					
Results of the Meas	surement of Volatile Or	ganic Compounds from Livestock	wastes			
Project Description						
	pecific VOCs from dairi	es in the Sacramento region.				
Report Location						
Report Location						
PI 1	Affiliation PI 1	Fund Source 1	Amount 1			
C. Schmidt	Consultant	US EPA	Amount			
PI 2	Affiliation PI 2	Fund Source 2	Amount 2			
DI O	Affiliation DLO	F	A			
PI 3	Affiliation PI 3	Fund Source 3	Amount 3			
PI 4	Affiliation PI 4	Fund Source 4	Amount 4			
PI 5	Affiliation PI 5	Fund Source 5	Amount 5			
1			ļ			
Related info 1						
http://www.4cleanai	ir.org/Documents/APC0	Determination.pdf				
Related info 2						
1						

Project ID 45					7/27	/2010
Project Category		Estimat	ed Completion Date	Project Sta	tus	
Livestock		January	/ 2002	Completed		
ProjectType		•		,		
Dairy Waste Manager	ment					
Project Name						
Survey Current Livest	ock Waste Manage	ment Praction	ces in the South Coast	Air Basin		
Project Description						
Evaluate manure mar http://www.aqmd.gov/	nagement practices rules/proposed/pr1	in the SCAC 127.html	QMD			
Report Location						
http://www.aqmd.gov/	rules/support.html					
PI 1	Affiliation PI 1		Fund Source 1		Amount 1	
Egigian-Nichols	Tetra Tech Ind	0	South Coast AQMD	)		
PI 2	Affiliation PI 2		Fund Source 2		Amount 2	
PI 3	Affiliation PI 3		Fund Source 3		Amount 3	
PI 4	Affiliation PI 4		Fund Source 4		Amount 4	
PI 5	Affiliation PI 5		Fund Source 5		Amount 5	
Related info 1			I			
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<u> </u>						
Related info 2						
l						

Project ID 46					7/27/201	
Project Category		Estimate	ed Completion Date	Project Status	3	
Literature Review		March 2	2003	Completed		
ProjectType	ProjectType					
Waste Management						
Project Name  Literature Survey and National Programs, Livestock Waste Management Practices Survey and Control						
Option Assessment	National Program	s, Livestock v	vaste Management Pra	actices Survey and Co	ontrol	
Project Description						
Literature survey of w http://www.aqmd.gov/	aste management rules/proposed/pr1	and control o	ptions.			
Report Location						
http://www.aqmd.gov/	rules/support.html					
PI 1	Affiliation PI	1	Fund Source 1		Amount 1	
Egigian-Nichols	Tetra Tech Ir	1C	South Coast AQMD	)		
PI 2	Affiliation PI	2	Fund Source 2	,	Amount 2	
PI 3	Affiliation PI	3	Fund Source 3		Amount 3	
-						
	Accili di Bi					
PI 4	Affiliation PI	1	Fund Source 4	/	Amount 4	
PI 5	Affiliation PI	5	Fund Source 5	,	Amount 5	
Related info 1	,		• •	, 		
Related info 2						

Project ID 47					7/27	
Project Category		Estimate	ed Completion Date	Project St	atus	
Livestock		March 2	003	Complete	d	
ProjectType	rojectType					
Waste Management						
Project Name						
Identify Potential Was Management Practice	te Management s Survey and Co	Practices Redu	cing Ammonia and VC	OCs, Livestock Wa	aste	
Project Description						
Report Location			/www.aqmd.gov/rules/	proposed/pr112/.	ntmi	
http://www.aqmd.gov/	uies/support.ntm					
PI 1	Affiliation Pl	1	Fund Source 1		Amount 1	
Egigian-Nichols	Tetra Tech	Inc	South Coast AQMD	)		
PI 2	Affiliation Pl	2	Fund Source 2		Amount 2	
PI 3	Affiliation Pl	2	Fund Source 3		Amount 3	
113	Annation	13	Tuna Source 5		Amount 3	
PI 4	Affiliation Pl	4	Fund Source 4		Amount 4	
PI 5	Affiliation Pl	5	Fund Source 5		Amount 5	
Polotod info 4	-		-			
Related info 1						
ļ						
Related info 2						
,						

Project ID			7/27/201
48			ļ.
Project Category		Estimated Completion Date Project	Status
Livestock		December 2003 Comple	
ProjectType			
Waste Management			
Project Name			
Emissions of Particul Partnership	late Matter and Ammonia	from Cattle Feedyards and Dairies: a Texas	-California
Project Description			
	of water application and not	nanure harvest frequency on PM and NH3 en ).	nission from
Report Location		enceProceedings/effectofsprinkling.pdf	
PI 1	Affiliation PI 1	Fund Source 1	Amount 1
B. Auvermann	Texas CEC	National Center for Manure and Animal Waste Management	\$12,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
W. Harman	UC Davis		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
D. Meyer	UC Davis		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
Dolotod info 4			
Related info 1	edu/~bauvermann/Confer	enceProceedings/index.htm	
	Sacronnam, Comor		
Related info 2			

Project ID			7/27/2
49			1.2.12
Project Category	Es	stimated Completion Date	Project Status
Livestock		omplete	Completed
ProjectType			
Dairy Emissions			
Project Name	ocess Emissions Using Flux	( Chambers	
Evaluating Daily 1 10	ocess Emissions Using Tital	Conditibers	
Project Description			
Using environmenta	al flux chambers at a working goons, flush lanes, and corr	dairy, evaluate relative emissic	on levels of individual
process morading ra	goone, nach lance, and con	aio.	
Report Location			
Technical Memoran	dum at: http://www.arb.ca.go	ov/ag/caf/SchmidtDairyTestData	a2005.pdf
PI 1	Affiliation PI 1	Fund Source 1	Amount 1
C. Schmidt	Contractor	ARB	\$50,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
FIZ	Aniliation F12	SJVAPCD	Amount 2
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
	A(()) () D1 -		
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
			<u>'</u>
Related info 1	r.org/Documents/APCODete	umination adf	
nttp://www.4cieanai	r.org/Documents/APCODete	ermination.pdi	
Related info 2			1986   1986 
reduced iiiio 2			
<u> </u>			

Project ID 50			7/27/2010
30			·
Project Category	E	stimated Completion Date	Project Status
Livestock	D	ecember 2005	Completed
ProjectType			
Dairy Emissions			
Project Name			
Measuring Dairy Co	w Emissions in an Environr	mental Chamber	
Project Description			
	environmentally controlled on the from fresh waste produc	chamber and evaluate speciate cts.	d VOC emissions emitted
Report Location			
Final Report May 31	, 2006. http://www.arb.ca.g	ov/ag/caf/MitloehnerDairyChan	nberEmissions2006.pdf
PI 1	Affiliation PI 1	Fund Source 1	Amount 1
F. Mitloehner	UC Davis	US EPA	\$75,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
R. Flocchini			
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
J. Peters			
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
Related info 1 http://www.4cleanaii	r.org/Documents/APCODet	ermination.pdf	
Related info 2			
J Environ Qual 37:6	15-622 (2008)		

Project ID 51			7/27/201
Project Category	Es	timated Completion Date	Project Status
Livestock			Completed
ProjectType			
Dairy Emissions			
Project Name	Ansing and Dhanal Enricei	and from Court and their Wests	
Volatile Fatty Acids,	Amine, and Phenoi Emission	ons from Cows and their Waste	
Project Description			
Donort Location			
Report Location	v/ag/caf/MitloehnerDairyCh	amharEmissions2006 ndf	
intp.//www.aib.ca.go	v/ag/cai/iviitioeiiiieiDaiiyOii	amboremissions2000.pui	
PI 1	Affiliation PI 1	Fund Source 1	Amount 1
F. Mitloehner	UC Davis	ARB	\$200,000
D1 0	1 (CIV. 1) D. C		
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
S. Trabue	USDA ARS		
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
J. Koziel	ISU	I direction of	7 0
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
E. DePeters	ISU		
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
Related info 1			
http://www.4cleanair	.org/Documents/APCODete	ermination.pdf	
Related info 2			
http://jeq.scijournals.	.org/cgi/content/full/37/2/61	5	

Project ID 52			7/27/2
32			·
Project Category		Estimated Completion Date	Project Status
On-Field		June 2004	Completed
ProjectType			
Almond Harvest Em	issions		
Project Name			
mprovement of PM	10 emission factors for	almond harvesting	
Project Description			
Refine existing PM1 during almond swee		almond harvesting. Estimates based o	on measured PM10
eport Location			
abstract available at	: http://asae.frymulti.co	m/abstract.asp?aid=20039&t=2	
abstract available at	: http://asae.frymulti.co	m/abstract.asp?aid=20039&t=2	
	: http://asae.frymulti.co	m/abstract.asp?aid=20039&t=2  Fund Source 1	Amount 1
인 1			
PI 1 R. Flocchini	Affiliation PI 1	Fund Source 1	
PI 1 R. Flocchini PI 2 C. Parnell	Affiliation PI 1 UC Davis	Fund Source 1 Almond Board of Califor	rnia
Pl 1 R. Flocchini Pl 2 C. Parnell	Affiliation PI 1 UC Davis Affiliation PI 2	Fund Source 1 Almond Board of Califor	rnia
Pl 1 R. Flocchini Pl 2 C. Parnell Pl 3	Affiliation PI 1 UC Davis Affiliation PI 2 Texas A&M	Fund Source 1 Almond Board of Califor Fund Source 2	Amount 2
Pl 1 R. Flocchini Pl 2 C. Parnell Pl 3	Affiliation PI 1 UC Davis  Affiliation PI 2 Texas A&M  Affiliation PI 3	Fund Source 1 Almond Board of Califor Fund Source 2 Fund Source 3	Amount 2  Amount 3
Pl 1 R. Flocchini Pl 2	Affiliation PI 1 UC Davis  Affiliation PI 2 Texas A&M  Affiliation PI 3	Fund Source 1 Almond Board of Califor Fund Source 2 Fund Source 3	Amount 2  Amount 3
Pl 1 R. Flocchini Pl 2 C. Parnell Pl 3	Affiliation PI 1 UC Davis  Affiliation PI 2 Texas A&M  Affiliation PI 3  Affiliation PI 4	Fund Source 1 Almond Board of Califor Fund Source 2 Fund Source 3 Fund Source 4	Amount 2  Amount 3  Amount 4

## Related info 1

Results showed that in all instances, the concentrations obtained from using the PM10 sampler were always higher than those obtained from using the TSP sampler.

## Related info 2

Contact Terry Cassel, UCD to see if report available: tacassel@ucdavis.edu

roject ID						7/27/2
3					_	
roject Category		Estimat	ted Completion Date	Projec	t Status	
ivestock		July 20	07	Comp	leted	
rojectType						
airy VOC Emissions	<b>S</b>					
roject Name						
hotochemical Ozone	e Formation Potentia	al of Agricul	tural VOC Sources			
roject Description						
eviously thought. One ob and NOx conc. w	zone formation pote ere 50 ppb. Results	ntial is gene s suggest th	ined by ethanol (EtOH) erally small (<20 ppb) v nat decreasing ROG (V lead to decreased ozor	vhen EtOH cor OC) from dairy	nc. were 200	IS
eport Location	,					
_user=1928924&_i	rdoc=1&_fmt=&_oriç	g=search&_	RL&_udi=B6VH3-4S0Y .sort=d&view=c&_versi 438		sion=0&_userio	d=
&_user=1928924&_ 928924&md5=e020b	rdoc=1&_fmt=&_oriç	g=search&_	sort=d&view=c&_versi		sion=0&_userio	
x_user=1928924&_i 928924&md5=e020b	rdoc=1&_fmt=&_orig b1203499a23d500c0	g=search&_	sort=d&view=c&_versi 438		Amoun	
2_user=1928924&_ 928924&md5=e020b 1 Green	rdoc=1&_fmt=&_origo1203499a23d500c0  Affiliation PI 1	g=search&_	sort=d&view=c&_versi 438 Fund Source 1 USDA		Amoun \$300	t 1 0,000
x_user=1928924&_ 928924&md5=e020b 1 . Green	rdoc=1&_fmt=&_orig b1203499a23d500c0	g=search&_	sort=d&view=c&_versi 438 Fund Source 1		Amoun	t 1 0,000
%_user=1928924&_i 928924&md5=e020t 1 . Green 2 . Mitloehner	Affiliation PI 2	g=search&_	Sort=d&view=c&_versi 438  Fund Source 1  USDA  Fund Source 2		Amoun \$300	t 1 0,000 t 2
%_user=1928924&_i928924&md5=e020b	rdoc=1&_fmt=&_origo1203499a23d500c0  Affiliation PI 1	g=search&_	sort=d&view=c&_versi 438 Fund Source 1 USDA		Amoun \$300	t 1 0,000 t 2
2 Mitloehner	Affiliation PI 2	g=search&_	Sort=d&view=c&_versi 438  Fund Source 1  USDA  Fund Source 2		Amoun \$300	t 1 0,000 t 2
8_user=1928924&_i 928924&md5=e020b 11 . Green 2 . Mitloehner 3	Affiliation PI 2  Affiliation PI 3	g=search&_	Sort=d&view=c&_versi 438  Fund Source 1 USDA Fund Source 2  Fund Source 3		Amoun \$300 Amoun	t 1 0,000 t 2
8_user=1928924&_i928924&_md5=e020h 1	Affiliation PI 2  Affiliation PI 3	g=search&_	Sort=d&view=c&_versi 438  Fund Source 1 USDA Fund Source 2  Fund Source 3		Amoun \$300 Amoun	t 1 0,000 t 2 t 3
	Affiliation PI 3  Affiliation PI 3  Affiliation PI 4	g=search&_	Fund Source 1 USDA Fund Source 2 Fund Source 3 Fund Source 4		Amoun Amoun Amoun	t 1 0,000 t 2 t 3
8_user=1928924&_i928924&_md5=e020h 1	Affiliation PI 3  Affiliation PI 3  Affiliation PI 4	g=search&_	Fund Source 1 USDA Fund Source 2 Fund Source 3 Fund Source 4		Amoun Amoun Amoun	t 1 0,000 t 2 t 3

Alternate site for report: Go to http://dx.doi.org and enter "doi:10.1016/j.atmosenv.2008.02.064"

Related info 2

Project Category Livestock May 2005  Project Type Broiler Emissions Project Name Measuring Broiler Emissions in Tunnel Ventilated Housing Project Description Measure PM10, ammonia, and speciated TOG emissions emitted from a tunnel ventilated broiler house during various stages of bird growth.  Report Location attip://www.arb.ca.gov/ag/caf/poulemisrpt.pdf  P1	Project ID 54			7/27/201
Affiliation PI 2  De Duke  Foster Farms  Poly 2  Affiliation PI 3  Affiliation PI 4  Affiliation PI 5  Fund Source 1  Amount 1  California Poultry Federation  \$40,000  Amount 2  Fund Source 2  Amount 3  Fund Source 3  Amount 3  Amount 4  Amount 4  Amount 4  Amount 4  PI 5  Affiliation PI 5  Fund Source 5  Amount 5		_		1
Project Name Measuring Broiler Emissions in Tunnel Ventilated Housing Project Description Measure PM10, ammonia, and speciated TOG emissions emitted from a tunnel ventilated broiler house during various stages of bird growth.  Report Location http://www.arb.ca.gov/ag/caf/poulemisrpt.pdf  PI	Project Category			ļ
Project Name  Measuring Broiler Emissions in Tunnel Ventilated Housing  Project Description  Measure PM10, ammonia, and speciated TOG emissions emitted from a tunnel ventilated broiler house during various stages of bird growth.  Report Location  http://www.arb.ca.gov/ag/caf/poulemisrpt.pdf  PI 1	Livestock	May 2005	Completed	
Project Name Measuring Broiler Emissions in Tunnel Ventilated Housing  Project Description  Measure PM10, ammonia, and speciated TOG emissions emitted from a tunnel ventilated broiler house during various stages of bird growth.  Report Location  http://www.arb.ca.gov/ag/caf/poulemisrpt.pdf  PI 1	ProjectType			
Measure PM10, ammonia, and speciated TOG emissions emitted from a tunnel ventilated broiler house during various stages of bird growth.  Report Location http://www.arb.ca.gov/ag/caf/poulemisrpt.pdf  P1	Broiler Emissions			
Project Description  Measure PM10, ammonia, and speciated TOG emissions emitted from a tunnel ventilated broiler house during various stages of bird growth.  Report Location  http://www.arb.ca.gov/ag/caf/poulemisrpt.pdf  PI	Project Name			
Measure PM10, ammonia, and speciated TOG emissions emitted from a tunnel ventilated broiler house during various stages of bird growth.  Report Location  http://www.arb.ca.gov/ag/caf/poulemisrpt.pdf  PI 1	Measuring Broiler Emissions in Tunne	nel Ventilated Housing		
Measure PM10, ammonia, and speciated TOG emissions emitted from a tunnel ventilated broiler house during various stages of bird growth.  Report Location  http://www.arb.ca.gov/ag/caf/poulemisrpt.pdf  PI 1	Project Description			
PI 1 Affiliation PI 1 Fund Source 1 Amount 1 M. Summers CDFA California Poultry Federation \$40,000 PI 2 Affiliation PI 2 D. Duke Foster Farms PI 3 Affiliation PI 3 PI 4 Affiliation PI 4 PI 5 Affiliation PI 5 PI 5 Affiliation PI 5 PI 6 Affiliation PI 5 PI 7 Amount 9 PI 8 Affiliation PI 9 PI 9 Affiliation PI		ated TOG emissions emitted from a	tunnel ventilated broiler house	•
PI 1 Affiliation PI 1 California Poultry Federation \$40,000 PI 2 Affiliation PI 2 Fund Source 2 Amount 2 D. Duke Foster Farms PI 3 Affiliation PI 3 Fund Source 3 Amount 3 PI 4 Affiliation PI 4 Fund Source 4 Amount 4 PI 5 Affiliation PI 5 Fund Source 5 Amount 5 PI 6 Affiliation PI 5 Fund Source 5 Amount 5	Report Location			
CDFA California Poultry Federation \$40,000 PI 2 Affiliation PI 2 D. Duke Foster Farms Fund Source 2 Amount 2 Fund Source 3 Amount 3 Fund Source 4 Amount 4 Fund Source 4 Amount 4 Fund Source 5 Amount 5  Fund Source 5 Amount 5	nttp://www.aro.ca.gov/ag/cat/poulemi	isrpt.par		
Pl 2 Affiliation Pl 2 Fund Source 2 Amount 2  Pl 3 Affiliation Pl 3 Fund Source 3 Amount 3  Pl 4 Affiliation Pl 4 Fund Source 4 Amount 4  Pl 5 Affiliation Pl 5 Fund Source 5 Amount 5  Related info 1	PI 1 Affiliation F	PI 1 Fund Source 1	Amour	nt 1
D. Duke Foster Farms  Pl 3 Affiliation Pl 3 Fund Source 3 Amount 3  Pl 4 Affiliation Pl 4 Fund Source 4 Amount 4  Pl 5 Affiliation Pl 5 Fund Source 5 Amount 5  Related info 1	M. Summers CDFA	California Poultr	Federation \$4	10,000
D. Duke Foster Farms  Pl 3 Affiliation Pl 3 Fund Source 3 Amount 3  Pl 4 Affiliation Pl 4 Fund Source 4 Amount 4  Pl 5 Affiliation Pl 5 Fund Source 5 Amount 5  Related info 1	DLO Affiliation I	DLO	A	-4.0
PI 3 Affiliation PI 3 Fund Source 3 Amount 3  PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5			Amour	nt 2
PI 4 Affiliation PI 4 Fund Source 4 Amount 4 PI 5 Affiliation PI 5 Fund Source 5 Amount 5 Related info 1		9		
PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1	PI 3 Affiliation F	PI 3 Fund Source 3	Amour	nt 3
PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1				
Related info 1	PI 4 Affiliation F	PI 4 Fund Source 4	Amour	nt 4
Related info 1				
Related info 1	DI 5 Affiliation I	DI E	Amour	n+ E
	P15 Affiliation F	P15 Fund Source 5	Amour	11 5
	Related info 1			
Related info 2	Rolatou IIIIO 1			
Related info 2				
	Related info 2			
				<del></del>

Project ID 55		7/27/201
Project Category Livestock	Estimated Completion Date December 2005	Project Status Completed
ProjectType Dairy ROG Emissions	·	
Project Name Evaluating Dairy Reactive Organic Ga	s Emissions	
Project Description		
	llected at dairies. Attempt to develop ecesses. Further study continues in 200	
Report Location		
	oventory Conference - AQTF/Documents/Amarillo_2005/Prese 320AAQTF%20Amarillo%2006-05).pdf	

PI 1	Affiliation PI 1	Fund Source 1	Amount 1
C. Krauter	CSU Fresno	ARB	\$100,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
D. Goorahoo	CSU Fresno	CSU Foundation	\$20,000
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
B. Goodrich	CSU Fresno		
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
M. Beene	CSU Fresno		
PI 5	Affiliation PI 5	Fund Source 5	Amount 5

## Related info 1

http://www.4cleanair.org/Documents/APCODetermination.pdf

## Related info 2

http://www.epa.gov/ttn/chief/conference/ei15/session6/beene.pdf

Project ID 56					7/27/2010
Project Category			d Completion Date	Project Status	
Livestock		Septemb	per 2008	In progress	
ProjectType					
Dairy Waste Manageme	ent				
Project Name					
Dairy Wastewater Treat	ment Feasibility	Study			
Daily Wasicwaler Treati	mont i casibility	Otday			
Project Description					
Assess the feasibility of manure from cows in typ assessment of technology	oical California	dairies. EPA pl	lans to incorporate thi	to the management of is information into its or	n-going
Report Location					
(When available) http://v	vww.epa.gov/re	gion09/ag/dairy	//technologies.html		
PI 1	Affiliation PI	1	Fund Source 1	A	mount 1
Trygve Lundquist	Cal-Poly SL0	0	US EPA		\$19,936
PI 2	Affiliation PI	2	Fund Source 2	Aı	mount 2
					\$0
PI 3	Affiliation PI	3	Fund Source 3	Ai	mount 3
					\$0
PI 4	Affiliation PI	4	Fund Source 4	Aı	mount 4
PI 5	Affiliation PI	F	Fund Source 5	Δ.	maunt F
PIS	Aniliation Pi	0	Fund Source 5	Al	mount 5
Related info 1					
http://www.arb.ca.gov/ao	g/caf/dairypnl/da	airypanel.htm			
Related info 2					
http://works.bepress.cor	n/tlundqui/2/				

Project ID 57			7/27/201
Project Category On-Field		mated Completion Date e 2011	Project Status In progress
ProjectType Soil VOC Emissions			
Project Name			
Reducing Emissions	of VOCs from Agricultural Sogy, ARB contract 07-332	oil Fumigation: Comparing E	mission Estimates from
Project Description			
emission data. Extendata laboratory and model	rmine the extent to which lat d the range of emission redu ing approaches. Variables un vs. HPDE covered beds/furr	ction strategies assessable inder investigation include co	in the field using the
Report Location			
PI 1	Affiliation PI 1	Fund Source 1	Amount 1
Scott Yates	USDA-ARS-Riverside	ARB	\$100,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
Daniel Ashworth	USDA-ARS	DPR	\$50,000
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
			\$0
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
Related info 1			
ARB agreement 07-3	32		
Related info 2			
USDA project 5310-1	2130-008-05		

Project ID			7/27/201
58			Į.
Project Category	E	stimated Completion Date	Project Status
Organic Waste Compos	sting	anuary 2010	Draft Report
ProjectType			
VOC Emissions			
Desired Nove			
Project Name Emission of GHGs Resi	Ilting from Greenwaste	Composting	
Emission of orrest test	diting from Creenwaste	Composting	
Project Description			
sulfide and moisture at	the core of the windrows	monia, nitrate, nitrite, nitric oxid s; collect emission flux samples rbon dioxide, nitrous oxide, and	s using a isolation flux
Report Location			
PI 1	Affiliation PI 1	Fund Source 1	Amount 1
Fatih Buyuksonmez	UC San Diego	SJVAPCD	\$198,000
DI O	A (CI) (I) DI O		10
PI 2	Affiliation PI 2	Fund Source 2	Amount 2 \$0
			Ψ**
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
			\$0
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
		304.00 1	7 illouite 1
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
1			
'	-		
Related info 1			
Related info 2			
Totaled IIIIO Z			
J			

Project ID						7/27/	2010
59							
Project Category		Estimated C	Completion Date	F	Project Status		
Livestock		April 2010		Ī	n Progress		
ProjectType		•					
NAEMS: Layer Em	issions						
Duning at Name							
Project Name NAFMS Project: Ai	r Emissions from Califo	ornia Laver Farr	ns				
1 17 12 1 10 jood 7 1	. Emissions nom Sams	on a Layor r am					
Project Description							
This project is for c	onducting a two-year rans from two mechanic	neasurement an	id monitoring of ai	ir emissio easured	ns from a layer	r farm	
approximately 68,0	00 hens in cages. The	measured emis	sions include amr	monia, hy	drogen sulfide,		
carbon dioxide, vol- the detailed informa	atile organic compound ation and data are colle	ls, total suspend ected on ventilat	ded particulates, F ion. indoor and ດເ	PM2.5 and utdoor env	d PM10. In add vironmental	dition,	
Report Location	and data are bone	TISC C TOTAIN	,		JJinai		
PI 1	Affiliation PI 1		Fund Source 1		Ar	mount 1	
R. Zhang	UC Davis		Ag Air Research C	Council		\$199,000	
PI 2	Affiliation PI 2		Fund Source 2		Δr	mount 2	
112	Amilation 172		una Source 2		Ai	\$0	-
PI 3	Affiliation PI 3	F	Fund Source 3		Ar	mount 3	
						\$0	
PI 4	Affiliation PI 4		Fund Source 4		Δr	mount 4	
114	Annadori		una dodrec 4		Ai	HOURT 4	۲
PI 5	Affiliation PI 5	F	und Source 5		Ar	mount 5	
Related info 1							
Related info 2							
-							

Project ID					7/27/2010
60				<u> </u>	
Project Category		<b>Estimated Complet</b>	ion Date	roject Status	
Livestock		April 2010	Ir	n Progress	
ProjectType		·			
NAEMS: Broiler Em	issions				
Project Name					
	Emissions from Califo	ornia Broiler Farms			_
Project Description		accourament and mani	toring of air aminaia	oo from a brailer far	
in CA. The emission	ns from two mechanica	neasurement and moni ally ventilated broiler ba	arns are measured. T	The two broiler barns	S
		en production cycle. The, methane, nitrous ox			š.
total suspended par	ticulates, PM2.5 and F	PM10. In addition, the	detailed information	and data are	,
Report Location					
PI 1	Affiliation PI 1	Fund Sc	ource 1	Amount	t 1
R. Zhang	UC Davis		Research Council		9,000
PI 2	Affiliation PI 2	Fund Sc	urce 2	Amount	\$0
					Φυ
PI 3	Affiliation PI 3	Fund Sc	ource 3	Amount	t 3
					\$0
DL 4	Affiliation PI 4	Fund Sc	ouroe 4	Amount	+ 4
PI 4	Aniilation Pl 4	Fund Sc	uice 4	Amount	4
PI 5	Affiliation PI 5	Fund Sc	ource 5	Amount	5
Related info 1					
Deleted info 0					
Related info 2					
J					

Project ID			7/27/20
61			
Project Category		Estimated Completion Date	Project Status
Livestock		June 2012	In progress
ProjectType			
Dairy N2O Emissions			
Drainet Name			
Project Name Assessment of Baseli	ne Nitrous Oxide En	missions in California Dairy Syste	ms. Contract 09-325
			,
Project Description			
N2O emissions will be N2O flux will be meas	e measured in silage ured intensively, usi	e corn systems of three dairy farm sing static chamber techniques. Ar	ns in Stanislaus County. The name N2O emissions will be
calculated. The annua	al N inputs in the form	rm of solid manure, lagoon water,	and synthetic fertilizer will be
accounted for to enab specific emission fact		e fraction of applied N that was em	nitted as N2O, i.e., the system
Report Location			
PI 1	Affiliation PI 1	Fund Source 1	Amount 1
William Horwath	UC Davis	ARB	\$300,000
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
112	Amilation 112	i una odarce z	\$0
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
			\$0
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
114	Allilation 114	I dila Source 4	Amount
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
			ļ
Related info 1			
Related info 2			

Project Category On-Field Une 2012 In Progress In Prog
On-Field  ProjectType Soil NOx Emissions  Project Name Determining NOx Emissions from Soil in California Cropping Systems to Improve Ozone Modeling, Contract 09-329 Project Description Add-on to contract 08-324, Project ID 38  Report Location  PI 1
Soil NOX Emissions  Project Name  Determining NOX Emissions from Soil in California Cropping Systems to Improve Ozone Modeling, Contract 09-329  Project Description  Add-on to contract 08-324, Project ID 38  Report Location  PI 1
Soil NOX Emissions  Project Name  Determining NOX Emissions from Soil in California Cropping Systems to Improve Ozone Modeling, Contract 09-329  Project Description  Add-on to contract 08-324, Project ID 38  Report Location  PI 1
Project Name  Determining NOx Emissions from Soil in California Cropping Systems to Improve Ozone Modeling, Contract 09-329  Project Description  Add-on to contract 08-324, Project ID 38  Report Location  PI 1
Determining NOx Emissions from Soil in California Cropping Systems to Improve Ozone Modeling, Contract 09-329  Project Description  Add-on to contract 08-324, Project ID 38  Report Location  PI 1
Project Description
Add-on to contract 08-324, Project ID 38
PI 1 Affiliation PI 1 Fund Source 1 Amount 1 William Horwath UC Davis Affiliation PI 2 Fund Source 2 Amount 2 PI 3 Affiliation PI 3 Fund Source 3 Amount 3 PI 4 Affiliation PI 4 Fund Source 4 Amount 4 PI 5 Affiliation PI 5 Fund Source 5 Amount 5
PI 1
PI 1
PI 1
PI 1
William Horwath  UC Davis  ARB  \$83,500  Fund Source 2  Amount 2  \$0  PI 3  Affiliation PI 3  Fund Source 3  Amount 3  \$0  PI 4  Affiliation PI 4  Fund Source 4  Amount 4  PI 5  Affiliation PI 5  Fund Source 5  Amount 5
William Horwath  UC Davis  ARB  \$83,500  Fund Source 2  Amount 2  \$0  PI 3  Affiliation PI 3  Fund Source 3  Amount 3  \$0  PI 4  Affiliation PI 4  Fund Source 4  Amount 4  PI 5  Affiliation PI 5  Fund Source 5  Amount 5
William Horwath  UC Davis  ARB  \$83,500  Fund Source 2  Amount 2  \$0  PI 3  Affiliation PI 3  Fund Source 3  Amount 3  \$0  PI 4  Affiliation PI 4  Fund Source 4  Amount 4  PI 5  Affiliation PI 5  Fund Source 5  Amount 5
William Horwath  UC Davis  ARB  \$83,500  Fund Source 2  Amount 2  \$0  PI 3  Affiliation PI 3  Fund Source 3  Amount 3  \$0  PI 4  Affiliation PI 4  Fund Source 4  Amount 4  PI 5  Affiliation PI 5  Fund Source 5  Amount 5
PI 2 Affiliation PI 2 Fund Source 2 Amount 2 \$0  PI 3 Affiliation PI 3 Fund Source 3 Amount 3 \$0  PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5
PI 3         Affiliation PI 3         Fund Source 3         Amount 3           PI 4         Affiliation PI 4         Fund Source 4         Amount 4           PI 5         Affiliation PI 5         Fund Source 5         Amount 5
PI 3         Affiliation PI 3         Fund Source 3         Amount 3           PI 4         Affiliation PI 4         Fund Source 4         Amount 4           PI 5         Affiliation PI 5         Fund Source 5         Amount 5
PI 3 Affiliation PI 3 Fund Source 3 Amount 3  PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5
PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5
PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5
PI 5 Affiliation PI 5 Fund Source 5 Amount 5
PI 5 Affiliation PI 5 Fund Source 5 Amount 5
Deliver district.
Related info 1
Related info 2

Project ID 63					7/2	27/2010
Project Category		Estimated	Completion Date	Project S	Status	
Biogenics		December		In progre		
ProjectType		ı		,		
Ozone Emissions						
						7
Project Name Flux Measurements of	f Piogonio Proguros	ro to Ozono on	d Particulate Matter	in the Central V	allav	_
Contract 06-329	Biogenic Precursor	is to Ozone an	d Particulate Matter	in the Central v	alley,	
Project Description						
Report Location						
]						
PI 1	Affiliation PI 1		Fund Source 1		Amount 1	
Allen Goldstein	UC Berkeley		ARB		\$400,0	03
PI 2	Affiliation PI 2		Fund Source 2		Amount 2	
FIZ	Allillation F12		runa Source 2			\$0
						, .
PI 3	Affiliation PI 3		Fund Source 3		Amount 3	
						\$0
PI 4	Affiliation PI 4		Fund Source 4		Amount 4	
F14	Allillation F14		Fulla Source 4		Amount 4	
PI 5	Affiliation PI 5		Fund Source 5		Amount 5	
1						
Related info 1						
l						
Related info 2						
						-

Project ID 64			7/27/2010
Project Category	Est	imated Completion Date	Project Status
Biogenics			
ProjectType			
VOC Emissions			
Project Name			
Improving Regional Bi Measurement System	ogenic VOC Emissions Es	timate Using an Airborne PTR MS	Eddy Flux
Project Description			
.,			
Report Location			
PI 1	Affiliation PI 1	Fund Source 1	Amount 1
Allen Goldstein	UC Berkeley	ARB	\$400,000
	A ((1))		
PI 2 Alex Guenther	Affiliation PI 2 UC Berkeley	Fund Source 2	Amount 2 \$0
, tiex Gueritiei	Do Berneley		Ψ
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
			\$0
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
Related info 1			
Related info 2			

Project ID 65			7/	27/2010
Project Category		Estimated Completion Date	Project Status	
Dairy Digester		December 2010	Draft protocol	
ProjectType			· •	
Removign H2S from	n Biogas			
Project Name Removal of H2S from Techology, contract	om Biogas and NOx from t #ICAT 0803	n Engine Exhaust at a Dairy Dig	gester Using Micorwave	
Project Description				
biogas powered end captured from a hea	gine at the Tollenaar Hol ated, mixed digester and	the H2S removal system and to steins Dairy Farm. Anaerobic of lused to fuel a 212 kW Guasco aerated water bubbler system	or engine-generator. H2S is	
PI 1	Affiliation PI 1	Fund Source 1	Amount 1	
Mark Rawson	SMUD	SMUD	\$246,3	09
PI 2	Affiliation PI 2	Fund Source 2	Amount 2	
Chang Cha	Cha Corporation			\$0
PI 3	Affiliation PI 3	Fund Source 3	Amount 3	
Dan Greenberg	Applied Filter Te	chnology		\$0
PI 4	Affiliation PI 4	Fund Source 4	Amount 4	
PI 5	Affiliation PI 5	Fund Source 5	Amount 5	
Related info 1				
Related info 2				
J				
				_

Pesticide Study  Project Type Fumigant Emissions  Project Name Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Film (VIF)  Project Description Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Film (VIF) for 1,3-D, shloropicfin, methyl bromide  Report Location R	Project ID 66			7/27/201
Project Type Fumigant Emissions  Project Name Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Film (VIF)  Project Description Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Film (VIF) for 1,3-D, shiloropicrin, methyl bromide  Report Location R	Project Category			
Funigant Emissions  Project Name Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Film (VIF)  Project Description Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Film (VIF) for 1,3-D, while the provided of Fumigant Emissions using Irrigation and Virtually Impenetrable Film (VIF) for 1,3-D, while the provided of Fumigant Emissions using Irrigation and Virtually Impenetrable Film (VIF) for 1,3-D, while the provided of Film (VIF) for 1,3-D, while t	Pesticide Study	20	07	Completed
Project Name Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Film (VIF) Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Film (VIF) for 1,3-D, shoropicrin, methyl bromide  Report Location Intrp://www.agecon.ucdavis.edu/extension/update/articles/v9n5_3.pdf  Pl 1	ProjectType			
Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Film (VIF)  Project Description Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Film (VIF) for 1,3-D, while the state of the project in the	Fumigant Emissions			
Project Description Reductions of Furnigant Emissions using Irrigation and Virtually Impenetrable Film (VIF) for 1,3-D, shloropicrin, methyl bromide  Report Location Report L	Project Name			
Reductions of Furnigant Emissions using Irrigation and Virtually Impenetrable Film (VIF) for 1,3-D, shloropicrin, methyl bromide  Report Location  http://www.agecon.ucdavis.edu/extension/update/articles/v9n5_3.pdf  PI 1	Reductions of Fumigar	nt Emissions using Irrigati	on and Virtually Impenetrable Film	(VIF)
Reductions of Furnigant Emissions using Irrigation and Virtually Impenetrable Film (VIF) for 1,3-D, shloropicrin, methyl bromide  Report Location  http://www.agecon.ucdavis.edu/extension/update/articles/v9n5_3.pdf  PI 1	Project Description			
PI 1 Affiliation PI 1	Reductions of Fumigal chloropicrin, methyl bro	nt Emissions using Irrigati omide	on and Virtually Impenetrable Film	(VIF) for 1,3-D,
PI 1 Affiliation PI 1	Report Location			
Steve Fennimore  UC Davis  PI 2  Affiliation PI 2  Husein Ajwa  UC Davis  Fund Source 2  Stawberry Commission  \$0  PI 3  Affiliation PI 3  Fund Source 3  Fund Source 3  Fund Source 3  Amount 3  \$0  PI 4  Affiliation PI 4  Fund Source 4  Amount 4  PI 5  Affiliation PI 5  Fund Source 5  Amount 5				
Pl 2 Affiliation Pl 2 Fund Source 2 Amount 2 Pl 3 Affiliation Pl 3 Fund Source 3 Amount 3 Pl 4 Affiliation Pl 4 Fund Source 4 Amount 4 Pl 5 Affiliation Pl 5 Fund Source 5 Amount 5  Related info 1	PI 1			
Husein Ajwa UC Davis Stawberry Commission \$0 PI 3 Affiliation PI 3 Fund Source 3 Amount 3 \$0 PI 4 Affiliation PI 4 Fund Source 4 Amount 4 PI 5 Affiliation PI 5 Fund Source 5 Amount 5 Related info 1	Steve Fennimore	UC Davis	USDA-CSREES	\$0
Husein Ajwa UC Davis Stawberry Commission \$0 PI 3 Affiliation PI 3 Fund Source 3 Amount 3 \$0 PI 4 Affiliation PI 4 Fund Source 4 Amount 4 PI 5 Affiliation PI 5 Fund Source 5 Amount 5 Related info 1	PI 2	Affiliation PI 2	Fund Source 2	Amount 2
Fund Source 4 Amount 4  PI 5 Affiliation PI 5  Fund Source 5 Amount 5  Related info 1	Husein Ajwa			\$0
PI 4 Affiliation PI 4 Fund Source 4 Amount 4 PI 5 Affiliation PI 5 Fund Source 5 Amount 5 Related info 1	PI 3	Affiliation PI 3	Fund Source 3	
PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1				\$0
Related info 1	PI 4	Affiliation PI 4	Fund Source 4	Amount 4
Related info 1				
	PI 5	Affiliation PI 5	Fund Source 5	Amount 5
Related info 2	Related info 1			
Related info 2				
	Related info 2			

Project Category Pesticide Study Project Type Funigant Emissions Project Name Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Films (VIF) Project Description Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Films (VIF) for 1,3-D and Chloropicrin  Report Location http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=185286  PI 1	Project Category Pesticide Study  Project Type Furnigant Emissions  Project Name Reductions of Furnigant Emissions using Irrigation and Virtually Impenetrable Films (VIF)  Project Description Reductions of Furnigant Emissions using Irrigation and Virtually Impenetrable Films (VIF) for 1,3-D and Chloropicrin  Report Location http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=185286  PI 1				
Project Category Pesticide Study Project Type Furnigant Emissions Project Name Reductions of Furnigant Emissions using Irrigation and Virtually Impenetrable Films (VIF) Project Description Reductions of Furnigant Emissions using Irrigation and Virtually Impenetrable Films (VIF) for 1,3-D and Chloropicrin  Report Location http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=185286  PI 1	Project Category Pesticide Study  ProjectType Furnigant Emissions  Project Name Reductions of Furnigant Emissions using Irrigation and Virtually Impenetrable Films (VIF) Project Description Reductions of Furnigant Emissions using Irrigation and Virtually Impenetrable Films (VIF) for 1,3-D and Chloropicrin  Report Location  Affiliation PI 1 Thomas Trout USDA-ARS PI 2 Affiliation PI 2 S. Gao USDA-ARS PI 3 Affiliation PI 3 Fund Source 2 Amount 2 Fund Source 3 Fund Source 3 Fund Source 4 Fund Source 4 Fund Source 4 Fund Source 5				7/27/2010
Project Type Furnigant Emissions  Project Name Reductions of Furnigant Emissions using Irrigation and Virtually Impenetrable Films (VIF) Project Description Reductions of Furnigant Emissions using Irrigation and Virtually Impenetrable Films (VIF) for 1,3-D and Chloropicrin  Report Location http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=185286  PI 1	Project Type Fumigant Emissions  Project Name Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Films (VIF) Project Description Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Films (VIF) for 1,3-D and Chloropicrin  Report Location http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=185286  PI 1				
Project Type Funigant Emissions  Project Name Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Films (VIF) Project Description Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Films (VIF) for 1,3-D and Chloropicrin  Report Location http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=185286  PI 1	ProjectType Fumigant Emissions  Project Name Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Films (VIF)  Project Description Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Films (VIF) for 1,3-D and Chloropicrin  Report Location  http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=185286  PI 1 Affiliation PI 1 Fund Source 1 Amount 1  Thomas Trout USDA-ARS \$0  PI 2 Affiliation PI 2 Fund Source 2 Amount 2  S. Gao USDA-ARS \$0  PI 3 Affiliation PI 3 Fund Source 3 Amount 3  PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5				
Fund Source 1  Affiliation PI 2  S. Gao  USDA-ARS  PI 3  Affiliation PI 3  Affiliation PI 3  Affiliation PI 3  Affiliation PI 4  PI 4  Affiliation PI 4  Affiliation PI 4  PI 5  Affiliation PI	Fund Source 1  Affiliation PI 2  S. Gao  USDA-ARS  PI 3  Affiliation PI 3  PI 3  Affiliation PI 3  PI 4  Affiliation PI 3  PI 3  Affiliation PI 3  PI 4  Affiliation PI 3  PI 5  Affiliation PI 4  PI 5  Affiliation PI 5  Affiliation PI 5  PI 6  Affiliation PI 7  PI 7  Affiliation PI 8  PI 9  Affiliation PI 9  PI 1  Affiliation PI 1  PI 1  Affiliation PI 3  PI 2  Affiliation PI 3  PI 3  Affiliation PI 3  PI 4  Affiliation PI 5  PI 5  Affiliation PI 5  PI 6  Affiliation PI 5  PI 7  Fund Source 2  Amount 2  Fund Source 3  Amount 3  SO  PI 4  Affiliation PI 5  PI 5  Affiliation PI 5  PI 9  Fund Source 4  Amount 5  Fund Source 5  Amount 5  Fund Source 5  Amount 5	Pesticide Study	200	Ю	Completed
Project Name Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Films (VIF)  Project Description Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Films (VIF) for 1,3-D and Chloropicrin  Report Location  http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=185286  PI 1	Project Name Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Films (VIF)  Project Description Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Films (VIF) for 1,3-D and Chloropicrin  Report Location  http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=185286  PI 1				
Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Films (VIF)  Project Description  Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Films (VIF) for 1,3-D and Chloropicrin  Report Location  http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=185286  PI 1	Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Films (VIF)  Project Description  Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Films (VIF) for 1,3-D and Chloropicrin  Report Location  http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=185286  PI 1	Fumigant Emissions			
Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Films (VIF)  Project Description  Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Films (VIF) for 1,3-D and Chloropicrin  Report Location  http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=185286  PI 1	Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Films (VIF)  Project Description  Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Films (VIF) for 1,3-D and Chloropicrin  Report Location  http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=185286  PI 1	Project Name			
Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Films (VIF) for 1,3-D and Chloropicrin  Report Location http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=185286  PI 1	Reductions of Fumigant Emissions using Irrigation and Virtually Impenetrable Films (VIF) for 1,3-D and Chloropicrin  Report Location  http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=185286  PI 1	Reductions of Fumig	ant Emissions using Irrigation	on and Virtually Impenetrable F	ilms (VIF)
Chloropicrin  Report Location  http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=185286  PI 1	Chloropicrin  Report Location http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=185286  PI 1	Project Description			
http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=185286  PI 1	http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=185286  PI 1	Reductions of Fumig Chloropicrin	ant Emissions using Irrigation	on and Virtually Impenetrable F	ilms (VIF) for 1,3-D and
http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=185286  PI 1	http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=185286  PI 1				
PI 1 Affiliation PI 1 Surce 1 Amount 1 Thomas Trout USDA-ARS PI 2 Affiliation PI 2 Fund Source 2 Amount 2 S. Gao USDA-ARS PI 3 Affiliation PI 3 Fund Source 3 Amount 3 PI 4 Affiliation PI 4 Fund Source 4 Amount 4 PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1	PI 1 Affiliation PI 1 Thomas Trout USDA-ARS \$0  PI 2 Affiliation PI 2 S. Gao USDA-ARS \$0  PI 3 Affiliation PI 3  PI 4 Affiliation PI 4  PI 5 Affiliation PI 5  Related info 1	<u> </u>			10700
Thomas Trout  USDA-ARS  PI 2  Affiliation PI 2  S. Gao  USDA-ARS  Fund Source 2  Amount 2  Fund Source 3  Fund Source 3  Amount 3  \$0  PI 4  Affiliation PI 4  Fund Source 4  Amount 4  PI 5  Affiliation PI 5  Fund Source 5  Amount 5  Fund Source 5	Thomas Trout  USDA-ARS  PI 2    Affiliation PI 2    S. Gao    USDA-ARS  PI 3    Affiliation PI 3    Fund Source 2    Amount 2    SO  PI 4    Affiliation PI 4    Fund Source 4    Amount 4  PI 5    Affiliation PI 5    Fund Source 5    Amount 5  Related info 1				
Thomas Trout  USDA-ARS  PI 2 Affiliation PI 2 S. Gao USDA-ARS  PI 3 Affiliation PI 3 Fund Source 2 Amount 2  Fund Source 3 Fund Source 3 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1	Thomas Trout  USDA-ARS  PI 2 Affiliation PI 2 S. Gao  USDA-ARS  PI 3 Affiliation PI 3 Fund Source 2 Amount 2  Fund Source 3 Fund Source 3 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Fund Source 5 Amount 5	Pl 1	Affiliation PI 1	Fund Source 1	Amount 1
S. Gao  USDA-ARS  PI 3  Affiliation PI 3  Fund Source 3  Fund Source 4  Amount 4  PI 5  Affiliation PI 5  Fund Source 5  Amount 5  Related info 1	S. Gao  USDA-ARS  PI 3  Affiliation PI 3  Fund Source 3  Fund Source 4  Amount 4  PI 5  Affiliation PI 5  Fund Source 5  Amount 5  Related info 1	Thomas Trout	USDA-ARS		\$0
S. Gao  USDA-ARS  PI 3  Affiliation PI 3  Fund Source 3  Fund Source 4  Amount 4  PI 5  Affiliation PI 5  Fund Source 5  Amount 5  Related info 1	S. Gao  USDA-ARS  PI 3  Affiliation PI 3  Fund Source 3  Amount 3  SO  PI 4  Affiliation PI 4  Fund Source 4  Amount 4  PI 5  Affiliation PI 5  Fund Source 5  Amount 5  Related info 1	PI 2	Affiliation PI 2	Fund Source 2	Amount 2
PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1	PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1			, una course I	
PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1	PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1				
PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1	PI 4 Affiliation PI 4 Fund Source 4 Amount 4  PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1	PI 3	Affiliation PI 3	Fund Source 3	
PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1	PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1				\$0
PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1	PI 5 Affiliation PI 5 Fund Source 5 Amount 5  Related info 1	PI 4	Affiliation PI 4	Fund Source 4	Amount 4
Related info 1	Related info 1				
Related info 1	Related info 1	Dis	A (C): D: -		
		PI 5	Affiliation PI 5	Fund Source 5	Amount 5
Related info 2	Related info 2	Related info 1			
Related info 2	Related info 2				
		Related info 2			

Project ID 68					7/2	7/2010
Project Category		Estimato	d Completion Date	Project S	Status	
Project Category Pesticide Study		2007	d Completion Date	Complet		
I colloide olddy		2007		Complet	ou	
ProjectType						
Fumigant Emissions						
Project Name						
Reductions of Fumig	gant Emissions usin	g Irrigation and	d Virtually Impermeat	ole Films (VIF)		
Project Description						
Reductions of Fumig Chloropicrin and me	gant Emissions usin thyl bromide	g Irrigation and	d Virtually Impermeab	ole Films (VIF) fo	r 1,3-D,	
Report Location						
http://mbao.org/2008	3/U35Ajwa.pdf					
PI 1	Affiliation PI	I	Fund Source 1		Amount 1	
Husein Ajwa	UC Davis		UC Davis			0
PI 2	Affiliation PL	2	Fund Source 2		Amount 2	
						0
PI 3	Affiliation PI	3	Fund Source 3		Amount 3	
						0
PI 4	Affiliation PI	1	Fund Source 4		Amount 4	
PI 5	Affiliation PI	5	Fund Source 5		Amount 5	
Related info 1				<u> </u>		
TOTALOG ITIO						
Related info 2						
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Project ID 69			7/27/2010
Project Category		Estimated Completion Date	Project Status
Pesticide Study		2007	Completed
ProjectType			•
Fumigant Emissions			
Project Name			
Reductions of Furnig	antemissiosn using Irric	gation	
Project Description			
	ons in fumigant emission	ns using tarps; foucs on 1,3-D.	
Report Location			
http://mbao.org/2008	3/035Ajwa.pdf		
PI 1	Affiliation PI 1	Fund Source 1	Amount 1
Husein Ajwa	UC Davis	UC Davis	\$0
PI 2	Affiliation PI 2	Fund Source 2	Amount 2
			\$0
PI 3	Affiliation PI 3	Fund Source 3	Amount 3
	Aimation 13	r una source s	\$0
			45
PI 4	Affiliation PI 4	Fund Source 4	Amount 4
	1000		
PI 5	Affiliation PI 5	Fund Source 5	Amount 5
Related info 1			
Related info 2			
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			-